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For the Library of
The University of Oxford.
From the Royal College of Surgeons in London.

CATALOGUE

OF

THE CONTENTS OF THE MUSEUM

OF

THE ROYAL COLLEGE OF SURGEONS IN LONDON.

PART V.

COMPREHENDING

THE PREPARATIONS OF MONSTERS AND MALFORMED PARTS, IN SPIRIT, AND IN A DRIED STATE.

LONDON:
PRINTED BY RICHARD TAYLOR,
RED LION COURT, FLEET-STREET.

1831.

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CATALOGUE.

MONSTERS AND MALFORMED PARTS.

Series I. Preternatural Situation of Parts.

Sub-series 1. *Without deficiency.*

No.
1. THE body of a human Fetus, in which there is a complete transposition of the thoracic and abdominal viscera. The left lung occupies the right side of the chest, towards which the apex of the heart is also directed, while the right, or tri-lobed lung is situated on the left. In the abdomen, the greater lobe of the liver and the cæcum are situated on the left side; while the stomach and sigmoid flexure of the colon, (to show which the small intestines have been removed,) occupy the right. (*Mus. Heaviside.*)

2. A fetal Chick, (Phasianus Gallus,) having the upper and lower mandibles decussating, (resembling the natural position of those parts in the Cross-bill). In this specimen it is in consequence of a distortion of the upper jaw, which arises from the skull in an oblique direction. (*Hunterian.*)

3. An embryo of a Goose, (Anas Anser,) about the eighth day of incubation, the spine of which has a distorted appearance. (*Hunterian.*)

4. A small Plaice (Pleuronectes Platessa,) with preternatural situation of the eyes, both being on the *left* side of the head. (*Hunterian.*)

5. A Perch (Perca fluviatilis,) with the integuments and muscles removed on the left side, to show a considerable distortion of the spine. (*Hunterian.*)

6. A Perch with a similar distortion of the spine. (*Hunterian.*)

Sub-series 2. *With deficiency.*

7. A female monstrous Fetus found in the abdomen of Thomas Lane, a lad between fifteen and sixteen years of age, at Sherborne, in Dorsetshire, June 9th, 1814.

The following extracts from the account of the post-mortem examination of the body, and the description of the fetus, are derived from the history of the case published by Nathaniel Highmore, Esq., by whom the preparation was presented to the Museum, 1814.

" Examination of the Body.

" On dividing the parietes of the abdomen and exposing its viscera, a large tumour, of an irregular but somewhat oval form, presented itself. It occupied portions of the epigastric, umbilical and left hypogastric regions; and was uncovered by the omentum, which was found in a ruffled state, lying above the tumour.

" In tracing the course of the intestines upwards and examining more particularly the tumour, I discovered that the jejunum was continued into the anterior and sinister-lateral part of the sac, inclosing the substance, of which, by its apparent expansion, it evidently formed a part. I then traced the course of the duodenum from the pyloric orifice of the stomach, and observed that its whole curve was firmly attached to, and connected with the sac, and that this intestine, also terminating in it, formed the anterior and dexter-lateral portion.

" The spleen, which had previously been suspected to be the viscus diseased, was lying behind the tumour, appeared compressed by it, and was inflamed at its lower edge. The liver was perfectly sound and healthy; as were also the kidneys, ureters, and urinary bladder. There was no bile in the gall-bladder, nor scarcely any fæces in the intestines, the latter containing little more than a quantity of coagulated blood, with two or three slight appearances of inflammation in the course of the jejunum and ilium.

" The young man, during the earlier part of my attendance on him, having laboured under frequent intermissions of the pulse, I examined also the state of the thoracic viscera. I found the pulmonary organs,

though not actually diseased, were of a bad colour, but perfectly capable of performing their functions. The pericardium was considerably distended, and contained about seven ounces of serous fluid; the heart was of the usual size, and quite free from disease.

"As the tumour appeared to be the only diseased part, and was evidently contained within the intestine, with a free communication between it, the duodenum, and the jejunum, I proceeded to remove it from the body; and, in order to prevent any alimentary or other matter from escaping, I secured the jejunum below the tumour, with two ligatures, and divided it between them; but, as the stomach was so closely connected with the tumour above, I considered that one ligature would there be sufficient, which I applied round the pyloric orifice, and divided the neck of the stomach.

"The only attachments that now remained were, to the mesentery, which had confined it close to the spine, and to the pancreas. I divided the mesentery; but as the pancreas so strongly adhered to it, immediately over the vertebræ, a portion of it was removed with the tumour.

"I conveyed the tumour to my house, and found its weight to be four pounds and a half: and, whilst in the act of placing it in a vessel where it was to remain during the night, my fore-finger accidentally slipped round the curve of the arm, at the elbow-joint, and first gave me the idea of its partaking of an animal form. At this circumstance I felt greatly astonished; and the more so, when, on my endeavouring to trace, through the sac, the extremity of the limb, I could count five digitals!

"The discovery thus made gave rise to a variety of conjectures and speculative arguments; and in order to ascertain that the youth from whom the fetus had been removed was really a male person, I accompanied several gentlemen to the mother of the deceased's house, where they each respectively examined the body, and became fully satisfied that he was a perfectly formed male; a circumstance on which some doubts had been expressed.

"I determined on taking the fetus to London; where, having submitted it to the inspection of my medical friends, I deposited it in the Museum of the Royal College of Surgeons."

" Description of the Fetus; and of the Sac, or Cyst, in which it was contained.

" On opening the sac by an oblique incision through the anterior and thinnest part, an imperfect human fetus was discovered. It lay on the left side, with the right arm, which was perfect, bent down upon the right hip; the left, which was very imperfectly formed, was resting against the leg, the thigh of which was bent up towards the abdomen; and the leg was bent at an acute angle upon the thigh.

" The fetus was connected with the sac by a short thick funis, which arose from its abdomen, rather towards the left side, passed forwards between the left arm and leg, and entered the sac at the posterior and upper part.

" It had no head; but at the basis of a denuded first vertebra some slips of skin arose, which followed nearly the course of the funis, with some medullary substance, around which was entangled a considerable quantity of matted hair, part of which measured twelve inches in length.

" There was also adhering to this skin a thin piece of bone, appearing to be a portion of cranium. The spine was much curved. There were two superior extremities, the right of which was perfectly formed, but had been fractured just above the carpal bones: the upper end of the radius was also dislocated, and protruded through the integuments. The left upper extremity was less perfectly formed; it was short, ill-shaped, and had only three fingers, with very long nails. The scapula of this arm rested on the side, almost as low down as the hip.

" There was only one inferior extremity: the thigh was bent forwards upon the body of the child, and the leg bent, sharp-angle, upon the thigh; the skin being common to each almost half their length, forming a kind of web, uniting the two together. The knee was dislocated; the skin over it had been absorbed, and the joint exposed. The ankle was also dislocated, and turned inwards; the common integuments had been absorbed, and the bones were exposed and perishing. It had six imperfectly formed toes.

" The left inferior extremity was wanting; but there was a considerable surface divested of skin, at the spot where it should have been. This

surface was regular and smooth, without any projecting bone, excepting at the inferior part, where a portion of ischium protruded.

" There was a quantity of sebaceous matter between the extremities and the body of the fetus; on the upper part of the thorax was a long fleshy excrescence, somewhat like the papilla of an elderly woman; and the appearance of the genitals favoured the idea of the fetus being a female.

The sac, which contained the fetus, was made up of two distinct portions: the larger portion, which was thick, spongy, and highly vascular, involved the greater part of the fetus. A small portion of the buttocks, the bent carpus, and the right arm, together with the foot and ankle, were covered by, and lying in contact with the inner surface of the intestine of the boy, which formed the second portion of the sac.

" The opening into the intestine seems to have been partly into the duodenum, and partly into the jejunum. The duodenum entered the cyst, the posterior part having been ruptured, while the anterior was continued into the jejunum, and formed the small portion of the described cyst. The jejunum emerged out of the sac, with a somewhat similar orifice, and was not far removed from the orifice of the duodenum: so that it was only the anterior portion of the intestinal canal that was dilated; the muscular fibres of the intestine could be easily traced, and were lost in the thick and vascular portion.

" On the outside of the sac, near the place where the funis entered, a great number of large vessels were observable: and on the inside of the sac, not far from the insertion of the funis, was a large arterial branch ruptured, from whence the hæmorrhage proceeded, which was the immediate cause of the lad's death."—For figures of the fetus see the work quoted, entitled " *Case of a Fetus found in the Abdomen of a Young Man, at Sherborne, in Dorsetshire, by Nathaniel Highmore, Surgeon.*"—1815.

8. An imperfectly formed male Fetus, found in the abdomen of John Hare, a child between nine and ten months old, born on the 8th of May, 1807. (*Presented by George William Young, Esq.* 1820.)

The history of this case is given at length in a paper by Mr. Young, in the

Medico-chirurgical Transactions, vol. i. p. 234. The examination of the body after death, with a description of the fetus, are alone extracted, as being sufficient for the purpose of explaining the preparation.

" Inspection of the Body after death.

" The abdomen, when measured, was twenty-two inches and a half in circumference. When this cavity was exposed, no fluid escaped; it was occupied by a large and nearly spherical tumour, which in parts was somewhat transparent, and appeared distended by a fluid. Above it, in the right hypochondrium, was seen the liver, much diminished in size; the fundus of the gall-bladder was turned forwards and inwards towards the linea alba. At the scrobiculus cordis, lying on the upper part of the tumour, was seen the pyloric extremity of the stomach; which fully explained the appearance observed to precede the act of vomiting during life (a pouch appearing to fill at the scrobiculus cordis, and to be pressed by the cartilages of the ribs against the tumour upon which it rested; so that by the state of this part, the approach of vomiting could be foretold, by which it was always emptied). The pylorus itself was scarcely distinguishable, therefore no means existed which were fitted to prevent a constant and free communication betwixt the cavity of the elongated stomach and the duodenum. The duodenum descended obliquely along the right side and upper part of the tumour; and then took its usual course behind it. The cæcum was not materially altered in position; but the colon ascendens, together with the arch of the colon, passed transversely over the tumour somewhat below its middle, and was firmly adherent to it; the tumour being evidently placed between the laminæ of the transverse meso-colon. The diaphanous omentum was stretched over the tumour betwixt the great curvature of the stomach and the arch of the colon; and the omentum minus was put equally upon the stretch; the small intestines were thrust down into the pelvis and hypogastric region, where, during life, they had been distinctly felt. The dense inferior part of the tumour rested on the mesentery. Before removing any part, I looked carefully for a cicatrix, which might mark the part through which the fluid must have escaped at the time the occurrences denoting a rup-

ture of the cyst took place; but in this I was unsuccessful. I found the cyst thin and transparent where it was covered by the omentum; thick, dense, and perfectly opake below the arch of the colon.

"After raising the stomach from its situation, the pancreas was seen stretched out upon the cyst, and its transparent duct appeared running along the fore and upper part towards its opening into the duodenum. It was remarkably elongated, measuring nine inches. The little pancreas was widely separated from the larger portion of the gland; remaining close to the duodenum at the termination of the elongated pancreatic duct. So much were these glandular substances compressed between the cyst and the upper layer of the transverse meso-colon, that in a hasty view they might have passed by unnoticed. The splenic branch of the vena portæ also took its course on the anterior surface of the cyst towards Glisson's capsule. This bundle of vessels answered the purpose of a firm ligament suspending the tumour. The posterior surface of the cyst rested chiefly upon the aorta, and was adherent to the left crus of the diaphragm. The cœliac artery, elongated, ran upwards and forwards to reach the superior part of the tumour, where its three branches were distributed in the usual manner. The superior mesenteric artery ran downwards towards the small intestines, closely adhering to the posterior part of the cyst; and behind it the duodenum crossed the spine as usual. The vena cava passed on the right side, unconnected with the tumour.

"After having thus far ascertained the relative situation of the tumour, and removed it from the body, I punctured it; seventy-eight ounces of a limpid fluid escaped, having the colour of an infusion of green tea, with a very slight tinge of blood. The opening was now dilated to expose the fleshy mass which had been felt during life, and it may be easily conceived that we were greatly surprised on finding that this substance had unequivocally the shape and characters of a human fetus."

"Description of the External Appearances of the Fetus.

"The surface of this singular monster was covered with a quantity of sebaceous matter, such in all respects as is often met with on the skin of infants recently born. When this was removed, the creature appeared as

rosy and healthy as if it had been yet alive. Its short and stout limbs were plump and firm; they were almost fixed in a posture resembling that in which the fetus in utero is usually found. Its spine was greatly curved, and formed a considerable rotundity backwards. The upper extremities laid close on each side of the trunk; the lower, which were remarkably short in proportion to their bulk, were drawn upwards towards the anterior part of the body, leaving the nates and genitals exposed below.

"At the upper part of the trunk, above and between the shoulders, was situated a dark red fleshy mass in the place of head, of which there was not any other vestige. This substance, when fresh, was plump and soft; careful dissection proved it to be of a texture resembling the pia mater. It is plentifully supplied with blood-vessels of considerable magnitude; but in no part of it could be found any substance resembling brain, nor could any nervous filaments be discovered in it. Across and into this substance ran a slender white cord, which was continued to the containing cyst, and there attached; it measured about two inches and a half in length. This proved to be nothing more than a slip of dura-mater. Another portion of this membrane may be seen covering and adhering to part of the anterior surface of the mass of pia-mater. But the chief connection betwixt the containing cyst and the fetus was found at the umbilicus; to this was fixed the apex of a fleshy cone, the basis of which was formed by the inferior portion of the cyst, immediately before that part of it to which the beginning of the jejunum is attached. The side of this conical substance was of a full red colour, smooth, plump, and to the feel possessed of a soft fleshy firmness. The diameter of the base of the cone measured one inch and seven tenths: its extremity at the umbilicus, half an inch: its side, one inch three tenths. A diagonal incision through its dense circular base gave vent to a quantity of black tenacious matter much resembling the meconium of infants: this, it was now found, had been contained in several convolutions of intestine, one of which adhering to the part divided, had unavoidably been wounded: thus it appeared, that this fleshy cone was an exomphalos; but, at the same time, it formed an important bond of union betwixt the fetus and the containing child, as will be shown in the sequel."

"At the base of the mass of pia-mater, which occupies the place of head, are seen two locks of fine long hair of a light brown colour; and beneath these, upon the thorax, two eminences. One on the right is of a button-like shape, its surface flat, its edge circular and rounded. It consists merely of common integuments padded with fat. The lesser eminence on the left, together with its stalk or peduncle, by which alone it is connected with the body of the fetus, contain the rudiments of a bony substance and some dense cellular membrane covered with common integuments. At the umbilicus is seen the exomphalos. The breech is well formed. The clutch or separation betwixt the nates distinctly defined; but there is no anus. The genitals have all the external characters of the male: a penis with a loose and rugous preputium; a glans penis denuded and most perfectly formed; with a distinct orifice to the urethra: this canal is not continued more than a line in the substance of the penis, where it then terminates.

"A scrotum divided into two parts towards the anus, but having no other character of labia. There is, however, an appearance under the penis, seen only when it is raised, which at first sight renders the intended sex doubtful. A smooth red surface is seen, at the upper part of which is the aperture of a small and very short canal extending inwards not more than a line; this is probably the continuation of the urethra, as it begins nearly opposite the termination of that portion of the canal within the penis.

"The right lower extremity consists of a very short thigh, a distinct knee, a very short leg, a well marked ankle, and a correctly formed foot; the back of this foot rests against the shoulder of the same side, while the sole is turned directly forwards. The heel and outer edge of this foot and the hollow of the sole have all the most natural appearance; but the toes exceed the usual number; four very small separate phalanges furnished with nails hold the place of the little toe and its neighbour; next to these are two large indistinct toes, each furnished with a nail; and the great toe is split into two smaller well-shapen toes with nails.

"The left lower extremity is not equally well formed. A thigh, a knee, and a leg are easily distinguished; but the foot is greatly mis-

shapen, in the manner of a club-foot; the sole is turned backwards, and rests against the body and left shoulder; the heel and the outer edge of the foot being turned inwards. The toes differ materially from the ordinary arrangement; three little toes furnished with nails, lie evenly next each other towards the outer edge of the foot; whilst the great toe is seen projecting considerably outwards, like a thumb separated from the fingers: betwixt these is a short thick mis-shapen projection with a nail upon it.

"The right superior extremity consists of an arm, an elbow bent and pointed forwards, a fore-arm, with the hand directed backwards, and resting against the side. The fingers are not complete either in number or form. There is one finger very well shapen; it has a perfect nail, the only one on this hand; on each side of this there is an imperfect stump, evidently intended for fingers. The left superior extremity, the elbow of which is marked by a slight bend and a deep dimple, consists of an arm, a fore-arm, a well-marked wrist, and a hand, to which there are but two fingers; these are large, straight, and parallel; on each a nail is distinctly seen. A singular appearance, which almost entirely occupies the posterior region of the body, exists in an abrupt termination of the common integuments on each side, forming the boundary of a dark red surface, broad at the shoulders, and tapering to a point towards the sacrum, above which it terminates. On the integuments around it are a number of fine short erect hairs, which are more numerous towards the pelvis. Along the middle of this space, in the direction of the spine, runs a line or raphé, from each side of which pass off transversely numerous filaments, the extremities of which hang loose, and when floating in water their arrangement may be more distinctly observed. Their course is not straight, but rather serpentine; and they send to each other, in an oblique direction, slender filaments of a similar structure: they become gradually shorter towards the inferior pointed extremity of this part. On each side of this part the dark red denuded surface is rough; but the villi which give it this appearance, have not any uniform or regular arrangement; betwixt this and the edge of the integuments, there is a margin of perfectly smooth and polished membrane.

"The peculiar structure of this part rendered it a subject of curious attention in the dissection of the fetus. On examining the spine, it was discovered that there were no processes to the vertebræ, no vertebral canal, no spinal marrow; that the substance in question, plentifully supplied with blood-vessels, lay on the posterior surface of the bodies of the vertebræ, thus occupying the place of the medulla spinalis.

"From these circumstances it appears warrantable to conclude that it was intended to form the spinal marrow, and that it consists of the membranous and vascular materials which appertain to it.

"Dissection of the Fetus.

"The investigation was begun by a perpendicular incision through the parietes of the abdomen, on the left side of the navel; and another, at right angles with this, slit the umbilicus open. A membranous pouch was now exposed, which appeared to occupy the whole cavity of the abdomen; from this proceeded an intestine through the umbilicus; but nothing else could be seen at this confined incision; and it therefore became necessary to make an extensive exposure of the whole interior. It appeared that this would be most safely effected by extending the vertical section, begun at the abdomen, through the thorax, down the spine, and through the pelvis; as the corresponding edges of each portion of the section could be equally discovered, and the course of divided vessels be traced without difficulty. The deficiency of vertebral canal and spinal marrow was now ascertained; the bodies of the vertebræ being the only parts of the spine which had been developed. The small cavity betwixt this and the anterior parietes of the body contained but few parts; and these do not bear any very close resemblance to the usual contents of the trunk. There was no diaphragmatic partition dividing this cavity into thorax and abdomen. There was no heart, no spleen, no liver, no urinary organs, nor any internal organs of generation. At its upper and posterior part, close to the vertebræ, lay a very vascular substance of a pale rose colour; which, from its texture and situation, may be considered as intended for the lungs.

"The alimentary canal is the most perfectly formed of the internal

organs; part indeed of the intestines, situated in the exomphalos, is in all respects naturally constructed. Its commencement occupies the inferior and anterior part of the body, and entirely fills the pelvis; it consists of that pouch which has been already noticed. The complete section of the body at once exposed its cavity, which was filled with a coagulum of florid blood. That portion of the pouch which occupies the pelvis gradually contracts towards the anus, where it terminates with an impervious point; so that there is not here any outlet. Behind the upper part of the pubis the substance of the pouch is folded transversely, and forms a ridge, which projects considerably into the cavity. The extremities of this fold are gradually lost on each side in the substance of the pouch. Above this transverse partial septum the cavity is again expanded, especially at its posterior part, from whence commences a spiral course of the intestinal tube, narrowing in capacity as it passes towards the navel; giving to this part the appearance of a turbinated shell, the basis of which is in the cavity of the body, and the apex passes out at the navel; there is, however, no modiolus around which this portion of the alimentary tube winds itself. It forms three complete turns; and having passed out at the navel, terminates in a sudden enlargement, which is the commencement of the first and most considerable convolution of intestine. This passes along the side of the exomphalos to its basis, to both of which it adheres; it then bends its course backwards towards the body: this portion is unadhering; the concave edge gives attachment to the mesentery, in which the natural course of the blood-vessels is readily seen. Having nearly reached the navel it again becomes adherent; then suddenly is lessened in capacity, forming a small tube of dense structure, which terminates in a singular three-sided pyramidal body, the apex of which is free.

" This body is of a firm fleshy consistence; its basis is united to the dense portion of intestinal tube just noticed, with which its narrow cavity is continuous. To one of its sides another convolution of intestine is attached, of less capacity and extent than that first described. The aperture of communication between this intestine and the three-sided appendix is large enough to admit a probe. From this last-mentioned

knuckle of intestine, which is supported by a distinct portion of the mesentery, the intestinal tube is continued behind the great convolution, adhering to the basis of the exomphalos. The remainder of the intestinal tube takes a tortuous course across the basis of the exomphalos, to which it is firmly fixed, and terminates in the straight gut. This capacious intestine closely adheres to the right side of the exomphalos, passing from its basis to the umbilicus, near which it terminates by an external opening, through which a probe passed without force. Here then the anus is found; on the right side of the exomphalos, near the umbilicus.

"There is an irregular bony substance at the upper part of the trunk, which may be considered as intended for the basis of the cranium. The spine, of which notice has already been taken, consists only of the bodies of the vertebræ, in which ossification has not been tardy. There are but few ribs, and these very short. The pelvis consists of a sacrum and two ossa innominata. The ileum is ossified, but the pubis and ischium are almost wholly cartilaginous.

"Of the cylindrical bones the bodies are ossified, but the epiphyses are cartilaginous. The carpus, the tarsus, and the phalanges are entirely cartilage. Some of the joints are well constructed: the extremities of the bones which form them are covered with diarthrodial cartilage; they are united by firm ligaments, and lubricated by synovia.

"Very little muscular substance is to be met with; there is not any on the posterior part of the trunk. The anterior parietes of the abdomen are composed solely of common integuments, adipose substance and peritoneum. About the hip-joints there are some slender portions of muscle; but little, if any, are discoverable in the remainder of the limbs; they principally consist of adipose substance.

"One of the most singular circumstances in the structure of this creature is the total absence of brain, of spinal marrow, and of the nerves of sense and voluntary motion; but a distinct plexus of nerves is seen just within the umbilicus, about the commencement of the intestines, to which numerous branches are distributed.

"The sanguiferous system is without a heart. It consists of two

main trunks. One, which is ramified at each extremity, sends numerous branches from the middle of the basis of the exomphalos, into its laminated substance; which extend far beyond the circular limits, defined by the attachment of the side of the cone. The peculiar structure in which they ramify forms a considerable portion of the cyst, as will be seen in the account given of this part. This trunk is then placed between the intestines, to which it sends branches; enters the umbilicus at its inferior part; passes first under and then to the right of the turbinated portion of intestine, and lastly enters the lung. It here divides into several branches, which are distributed to the extremities, to the spine, to the pelvis, and to the mass of pia-mater which holds the place of head. The other great trunk is placed on the right side of the first in the lung; where it receives branches from the pia-mater, from the spine, from the pelvis, and from the extremities. As it passes out at the umbilicus, it gradually separates from the first-mentioned vessel, and takes a direct course between the inner surface of the side of the exomphalos and the straight gut. Having reached the basis, it runs a little way along its edge, and then takes an extensive course on the inner surface of the cyst towards the superior mesenteric vessels of the containing child, near which it terminates. The considerable length of this vessel, it is evident, has been occasioned by the gradual augmentation of the cyst; it was so choked up by coagulated blood that quicksilver could not be made to run any distance in it; and though it could be traced to the neighbourhood of the superior mesenteric vessels, yet the greatest care and perseverance could not discover its mode of termination.

"From what has been already stated, it must appear that the containing cyst answered the purpose of a placenta to the fetus, and it therefore becomes a point of some interest to enquire into its structure.

"The thickness of the cyst is various; it is thinnest at its fore and upper part, where it was covered by the omentum; and, when fully distended, it was at this part transparent. Here an appearance was met with which explained the escape and re-accumulation of the fluid contents noticed during life.

"A laceration is seen on the inner surface about half an inch in length,

which leads to a separation of the extent of three quarters of an inch, between the two layers of which this part of the cyst is composed. At the termination of this separation there is a small hole through the external coat. This appearance, it is probable, had been produced in the following manner:—The great accumulation of fluid occasioned the internal coat first to give way, and this small rupture was, by the same cause, gradually enlarged. The external coat opposite this part had now to sustain the whole increasing force of distention; till at length, yielding at the small point noticed, it allowed the fluid to escape into the posterior cavity of the peritoneum, and thence, under Glisson's capsule, into its anterior cavity. In the flaccid state of the cyst, produced by the partial evacuation of its fluid contents, its vessels would in part repair this breach, and the separated laminæ would again be brought into contact; so that a fresh accumulation of fluid would be prevented from escaping.

"The thickest part of the cyst is its inferior portion, the middle of which forms the basis of the exomphalos. It receives a peritoneal covering, between the arch of the colon and the mesentery, from the inferior lamina of the transverse meso-colon; the superior lamina of which is spread over the upper part.

"The internal surface of the cyst is lined by a smooth delicate serous membrane, which is reflected over the side of the exomphalos, and terminates as abruptly at the navel of the fetus, as the peculiar structure of the funis appears to end at this part in a fetus placed under ordinary circumstances. At some parts of the internal surface there is a scaly appearance resembling, in some degree, deciduous cuticle.

"The substance of this cyst consists of several layers of considerable firmness; varying at different parts in thickness, and apparently in number. Opposite, and to some extent around the exomphalos, these laminæ appear much thicker, more numerous, and more distinct than elsewhere; this part can be shown to consist of eight laminæ; they appear distinctly in a vertical section, and separate readily.

"This part of the cyst receives a very considerable artery from the colica sinistra. This vessel sends branches round the basis of the exomphalos, whose subdivisions cross it in all directions; but no mesenteric vein accompanies this artery."

Sub-series 2.—With Deficiency.

9. A portion of the diaphragm of an adult human subject, having a preternatural opening in it, through which a considerable portion of the omentum has escaped from the cavity of the abdomen, into the thorax, and has contracted firm adhesions between it and the thoracic surface of the diaphragm, as if originally formed there. *Hunterian.*

The following account of this preparation is extracted from the Hunterian MSS. "Dissections of Morbid Bodies," vol. iii. p. 26.—No. 38.

"November 1757. I dissected the body of a marine who died at St. George's Hospital. He was in there for a carious tibia: he seemed to be very healthy, robust, fat, and young. When I was examining the viscera, I observed that the omentum was very small for such a subject. After this was done, Mr. Phillip was removing the stomach, liver, spleen, and pancreas; but he found the epiploon pass up by the spleen towards the diaphragm, and on pulling it down, he observed that it seemed to come through the diaphragm from the thorax; I cut off most of that part which was below the diaphragm, and so left it in that state for four or five days, till the thorax was opened, when we found a large portion of epiploon lying loose in the cavity of the thorax, and which was capable of being spread into its natural form, and was not at all diseased. It adhered to the edge of the hole in the diaphragm on that side next to the spine, but not on the other: and at the part where it passed through, it was much smaller, and continued so for a little way on both sides, but became gradually larger. This is a hint that it was natural; for if it had not been natural, it would have been as thick there as at any other part: or if it had been compressed by the ring made in the diaphragm, it would only have been smaller where it was compressed. The vessels anastomosed with those of the diaphragm very freely."

10. A male human Fetus, nearly at the full time, in which there is transposition of some of the abdominal viscera, the liver and stomach occupying the right iliac region; the greater part of the small intestines occupy the cavity of the thorax, into which they have passed through a preternatural aperture in the diaphragm. *Presented by Thomas Blizard, Esq.* 1817.

11. The body of a human Fetus, in which the whole of the duodenum, jejunum,

and ilium (to within an inch of the cæcum), together with the spleen, occupy the left side of the thorax, having passed through an opening occasioned by a preternatural deficiency of the diaphragm on that side.

Presented by J. W. Allison, Esq. 1824.

12. The head of a Dog, in which the right cuspidatus of the lower jaw, from its unnatural situation, and an excess of growth, has by its pressure formed an aperture through the palate for its reception, and thus allowed the animal the power of mastication. *Hunterian.*

Series II. Addition of Parts.

Sub-series 1. *Head.*

13. The head of a child at the birth, with a large spherical tumour attached to the vertex of the head. *Hunterian.*

14. A nævus maternus, formed in the inner canthus of the eye of a child. It was originally of a purple colour, and appeared at the time of its removal to be composed of a congeries of vessels. *Hunterian.*

15. A nævus maternus from the chin of a young man. *Hunterian.*

16. The head of a Roe (Cervus Capreolus) with horns, shot at Petworth in Sussex; the horns are but very imperfectly formed, the longest measuring not more than three inches in length.

Extract of a Letter from the Earl of Egremont, which accompanied the above specimen, presented by him to the Museum.

"It is a female of the roebuck, of which there are many in the woods near Petworth, and on last Monday, August 2nd, 1810, I went out to endeavour to shoot a male; and seeing the horns, I thought I had done so, but it proved to be a very old and uncommonly large female, with two young ones in her. The roebuck does not shed his horns in the spring, as the stag and fallow-deer do, but in the month of December; and the horns are not burnished (that is to say they do not get bright, with all the skin and hair rubbed off,) till the middle of April or the beginning of May. I saw several males on Monday, and all of them had the skin and hair still remaining upon their horns. I thought this was a very old

male, from the imperfect appearance of the horns; for these, as well as the stag and fallow-deer, put out irregular and imperfect horns when they are old and past the prime of their vigour.

"I believe this is a very uncommon specimen, and may perhaps be worthy of a place in the Hunterian Museum. &c. &c.

"EGREMONT."

17. The head of a monstrous Calf, (Bos Taurus,) the anterior part of which is duplex, presenting separate noses and mouths; a central eye (formed by the united orbits, and opening by one pair of eye-lids,) exists in the mid-space between the two external eyes; the ears, in number and situation, are perfectly natural. *Hunterian.*

18. The tongues of a double-headed Calf, which unite at the fauces, and have but a single larynx and pharynx. In the dissection of the head and neck of this animal, it was observed that "there were three carotid arteries,—one on each side of the trachea, as usual,—and one large one ran up in front of the trachea, and divided into two vessels when it had reached the head; each of which gave off their branches in the usual manner."—See Hunterian MSS. "Dissections", vol. iii. p. 75. June 1764.

19. The brains of the same animal, united at the medulla spinalis.

"There are two completely formed brains, with the two medullæ oblongatæ, which join into one medulla spinalis just at the foramen magnum occipitale. The nerves arise in pairs from these brains, and pass through their respective foramina. The first, second, third, fourth, fifth, sixth, seventh, and ninth, had all parts to go to in their respective pairs, as usual, for there were two noses, four eyes, four ears, and two tongues; but there was but one heart, one pair of lungs, and one stomach; so that the great difference must have been in the eighth pair and intercostal. I found the eighth pair of nerves going down the neck as usual, and likewise the intercostal; and in tracing them towards their origins I found that they were from the outside of each brain. I then examined the inner eighth pair to see what became of them, and found that they dwindled into nothing in their passage through the skull." *Hunterian.* See Hunterian MSS. "Dissections," vol. iii. p. 75.

20. The two cerebella, uniting by the medullæ oblongatæ in one medulla spinalis; from a double-headed Calf. *Hunterian.*

21. An irregular sac, with a fibrous horny secretion upon its inner surface; from the horn of a monstrous Cow, (Bos Taurus). *Hunterian.*

22. A portion of the preceding structure. *Hunterian.*

23. A smaller portion of the same structure. *Hunterian.*

24. A similar portion, in which the corneous structure is very distinct. *Hunterian.*

25. A Pig, (Sus domesticus,) with a defective palate, from which arises the rudiment of an upper jaw which contains teeth; the lower jaw is double, each side possessing a separate tongue and teeth. *Hunterian.*

26. A monstrous Kitten, (Felis Catus,) with the anterior part of the head duplex, presenting a second, but imperfect nose and mouth. The eyes and ears are natural in number. *Hunterian.*

27. A similar monstrous Kitten. The mouths are extended to show the perfect separation of their cavities; the trachea also, which is single, is exposed at its upper part. *Hunterian.*

28. A similar monstrous Kitten, with an intermediate or third eye. *Hunterian.*

29. The head of a Turkey, (Meleagris Gallopavo,) with a tuft or crown of feathers arising from the fleshy caruncle on the top of the head. *Hunterian.*

30. A fetal monster Duck, (Anas Boschas,) having two distinct heads, which are attached to the body by separate necks. The wings, body, and legs are natural. *Hunterian.*

31. A young Duck, with an additional, but imperfectly formed leg and foot growing from the head, above the right orbit. *Hunterian.*

See a drawing, by Mr. Clift, of a similar monstrosity in a duck four months old. *Museum Drawings.*

32. A small specimen of the common English Snake, (Coluber Natrix,) with two perfect heads. *Hunterian.*

33. A small American? Snake, with two heads. *Hunterian.*
See drawing of a similar monstrosity taken in one of the Islands of Lake Champlain in 1761. *Museum Drawings.*

34. A fetal Dog-fish, (Squalus Canicula,) with two perfect heads, which unite in one body immediately behind the gills. *Hunterian.*

Sub-series 2. *Trunk and Extremities.*

35. A portion of human skin, the cuticle of which is partially turned down, to expose a thickening of the rete mucosum beneath, of a brown colour, and with long hairs growing from the cutis at that part, forming what is usually called a mole. *Hunterian.*

36. A nævus maternus, from the body of a child. *Hunterian.*

37. A portion of a human foot that had six toes, the last three of which are connate: the great toe has been removed. *Hunterian.*

38. The foot of a Pig, with an additional posterior toe. *Hunterian.*

39. The core of a horn which grew from the groin of a Ram. *Hunterian.*
See drawing of the horn in situ. *Museum Drawings.*

40. A double-bodied fetal Chick, with a single head, and four legs and wings. *Hunterian.*

41. A monster fetal Chick, with an additional pair of legs and wings growing from the ventral part of the body. *Hunterian.*

42. A monster Chick, with an additional pair of legs growing from the sacrum: on either side of the pedicle by which they are attached, a distinct and separate anus exists, into which bristles are placed. *Hunterian.*

43. A similar specimen. *Mus. Brit.*

44. A monster Chick, with an additional pair of legs growing from the lower part of the abdomen. *Hunterian.*

45. A young Gosling, with an additional leg growing from one side of the abdomen. *Mus. Brit.*

46. A Duck, with an additional pair of legs growing from the lower part of the abdomen. *Presented by Mrs. Robinson.* 1819.

47. A Pigeon, (Columba Œnas,) with an additional pair of wings; in other respects perfectly formed. *Mus. Brit.*

48. A Lizard, (Lacerta strumosa?) with the rudiment of an additional tail growing at an acute angle from the side of the true one. This is the effect most probably of an accident, and not a congenital deformity. The power of reproduction of that part of the body in this class of reptiles is well known; there are other examples in the Museum of a similar addition, produced from a wound alone, without the loss of the original tail it was intended to replace; therefore, although a casual product, it forms a monstrosity which naturally comes under the head 'Addition.' *Hunterian.*

49. A Frog, (Rana temporaria,) with an additional leg growing from the middle of the sternum. *Hunterian.*

50. An Earth-worm, (Lumbricus terrestris,) with the extremity of the body bifid. *Presented by Mr. Clift.* 1810.

Sub-series 3. *Organs of Circulation.*

51. An adult human heart, showing the existence of a septum in the right ventricle, by which it is divided into two nearly equal cavities. It arises from the apex, and is continued upwards to within an inch of the origin of the pulmonary artery, where it terminates in a concave edge opposite the intermediate space between that vessel and the tricuspid valve, leaving an oval opening which permitted a free passage for the blood to the lungs. The septum itself is composed of fasciculi of muscular fibres, similar to the general structure of the ventricle, leaving small foramina between them, in two of which bristles have been placed. *Hunterian.*

Sub-series 4. *Organs of Digestion.*

52. A human spleen, with a small secondary one attached to its concave side; it is spherical in shape, and about half an inch in diameter. *Hunterian.*

53. Part of the liver of a Cod-fish, (Gadus morhua,) with two gall-bladders. *Hunterian.*

Sub-series 5. *Urinary and Genital Organs.*

54. The lower part of a human urinary bladder, of which the ureters are double, and open in it by four distinct orifices, which are marked by bristles.
Hunterian.

55. A portion of a human urinary bladder, showing the terminations of a double ureter, the openings of which are marked by bristles. *Hunterian.*

56. The lower part of a human urinary bladder, with double ureters opening in it, by four widely distant orifices, in which bristles have been placed; as also in the ducts opening at the caput galinaginis. *Mus. Heaviside.*

57. A section of a human kidney, having a double pelvis and ureter, which are injected. *Hunterian.*

58. A similar kidney, also injected. *Hunterian.*

59. A small human kidney, with double ureters, which unite in one duct at about three inches from the gland. Injected.
Presented by Sir William Blizard.

60. A similar kidney, the ureters uniting nearer the gland.
Presented by Sir William Blizard.

61. A human double uterus, impregnated, containing a female Fetus at the full period of gestation.

This extraordinary case is described in a paper read before the Royal Society, June 23, 1774, by John Purcell, M.D. Professor of Anatomy in the College of Dublin; from which the following account is extracted.

> " Last summer (1773) the body of a woman, who had died in labour in the ninth month of her pregnancy, was dissected at the Anatomical Theatre of Trinity College. Upon opening the abdomen, an uterus appeared of such a size and form as is usually observed at that period. It contained a full-grown fetus; but was furnished with only one ovarium, and one Fallopian tube, which were situated on the right side. On the left was placed a second uterus, unimpregnated, and of the usual size, to which the other ovarium and tube were annexed. But these two uteri were totally distinct, and separated from each other, except at the lower

extremity of their necks, where their union extended a quarter of an inch, and an acute angle was formed between them. There was nothing extraordinary in the formation of the external parts of generation; but from each side of the meatus urinarius a membrane ran downwards; and the two having comprehended this orifice between them, were joined together a little below it, so as to form, by their union, a septum or mediastinum, which, taking the remainder of its origin from all that prominent ridge called the superior columna, and descending perpendicularly, was inserted into the inferior columna, so as to extend from the entrance of the vagina as far backwards as its posterior extremity, and thus to divide it into two tubes of nearly equal dimensions. But each of these did not lead to the womb of its own side; for the right vagina became gradually wider as it ran backwards, and at last was so far dilated as to comprehend, within its circumference, the orifices of both uteri; while that on the left side, having taken an oblique direction, ended in a cul de sac, or cæcum.

" Such a conformation might have rendered it totally useless: to prevent which, Nature, fertile in expedients, seems to have had recourse to a very extraordinary contrivance. This was a fissure in the septum, an inch in length, and about an inch distant from the womb of that side. Although its circumference was perfectly smooth, we must acknowledge that it might have arisen from an accidental rupture of the septum; the lips of the wound not uniting, and, in process of time, becoming callous; and yet, I imagine, that the parts were originally formed in this manner, in order to preserve a communication between the two vaginæ. Thus it appears, that both uteri might be impregnated through either vagina, as that on the right side led directly to both; and as, by means of the fissure in the septum, the semen could easily be thrown from the left vagina into the right, where the apertures of the two wombs were placed. Through the latter passage both would seem to have an equal chance for impregnation: for, notwithstanding that which contained the fetus was placed almost directly in a line with the axis of the right vagina, yet this probably was not its original position; but by degrees its bulk increased so much as necessarily to occupy the middle space, and push

the unimpregnated one aside. But, however surprising it may seem at first view, yet there is reason to imagine, that the right womb, though at a greater distance, would be much more apt to conceive than the other, if the left vagina had been made use of. For when this was distended, it appeared that the posterior part of the septum, by its protuberance, closed up and covered the left os tincæ; and, as such would probably be the case in copulation, the semen not finding a ready admission into it, would pass over to the right orifice, where its entrance could not be so much obstructed. So that, if we may hazard a conjecture, I think it most likely, since the right uterus alone conceived, that the left vagina had generally been employed.

"The septum was not merely membranous, but fleshy, and of a considerable thickness; and, like most other mediastina in the human body, consisted of two laminæ combined. Of these each vagina furnished one; for each had its own constrictor, and being completely surrounded by muscular fibres, had a power of contraction independent on the other; which could not be effected if both vaginæ were comprehended within the same muscular rings, and separated by a membrane incapable of action."—Philos. Trans., vol. lxiv. p. 474, with figures.

62. The uterus of a Cow, with a double os tincæ; one horn of the uterus was in a state of impregnation, but the calf which it contained, died at an early period of gestation. *Hunterian.*

63. The fetal Calf removed from the above uterus; it had become dry, and apparently of the consistence of leather. *Hunterian.*

Series III. Deficiency of Parts.

Sub-series 1. *Head.*

64. A part of the head of a human Fetus, with deficiency of the upper lip, and having a doubly-fissured palate. The eye-lids of the left side are very imperfectly developed, and the aperture between them considerably smaller than natural; those on the right side are naturally formed. Several excrescences, or nævi materni, exist upon the cheeks. *Hunterian.*

65. The head of a human Fetus at the birth, having a similarly defective palate and upper lip. *Presented by Sir William Blizard.* 1804.

66. A female human Fetus at the full time, with a similar deficiency of the upper lip, and a defective palate. *Mus. Brit.*

67. A Hedge-sparrow, (Motacilla modularis,) the lower mandible of which has a preternatural appearance, in consequence of its being rendered bifid by a fissure extending from its apex backwards. The left half of the lower mandible is one eighth of an inch longer than the right, producing the effect of a portion having been broken away by an accident on the opposite side. *Hunterian.*

68. A Flounder, (Pleuronectes Passer,) the head of which presents a distorted appearance, from the existence of a depression about one fourth of an inch in depth, situated above the eyes, somewhat resembling a second mouth; the dorsal fin terminates at the upper margin of this fissure, and forms a sort of crest. *Hunterian.*

69. The head of a monstrous Lamb, in which all the parts anterior to the ears are deficient; the ears approximate closely at their origin, and a small aperture exists between them that communicates with the œsophagus.
Presented by the Prince of Condé.

70. The head of a similar monstrous Lamb; the superior portion of the œsophagus and trachea are exposed in situ.
Presented by Sir William Blizard.

71. The head of a Lamb, the lower jaw of which is deficient. A spherical cavity, which opens externally by a small aperture between the ears, as in the preceding specimens, is laid open laterally, together with the œsophagus with which it communicates. *Hunterian.*

72. The head of a Lamb, the lower jaw of which is deficient. An aperture communicating with the œsophagus opens between the ears, which are placed upon the inferior part of the head, a situation occupied also by the eyes. *Presented by Sir E. Home, Bart.* 1802.

73. The head of a monoculous or cyclop Lamb, which has the orbits and eyes

conjoined. In other respects it resembles No. 71; the faucial cavity and the œsophagus are opened upon their inferior part. *Hunterian.*

74. The head of a monstrous Lamb, similar to the preceding specimen: the œsophagus and faucial cavity are laid open laterally; two quills are placed in the external opening between the ears, which is divided at that situation by a septum. *Hunterian.*

75. The head of a monoculous Lamb, with deficiency of the lower jaw. *Hunterian.*

76. The head of a monoculous Lamb. *Mus. Brookes.*

77. The head of a monoculous Lamb. In this specimen the conjunction of the two globes within the single orbit is visible externally. *Presented by W. R. Gilbert, Esq.* 1827.

78. The head of a fetal Calf, in which all the parts anterior to the ears, which are imperfect, are deficient; the œsophagus or faucial cavity communicating with it, opening between them. *Hunterian.*

79. The head of a Pig that was born alive, but from the total deficiency of the lower jaw it was unable to suck, and died about twelve hours subsequent to birth. *Presented by Robert Semple, Esq.* 1820.

80. The head of a Pig, in which the distortion and deficiency are confined to the upper jaw, which is divided by a longitudinal fissure; the two separated portions being turned upwards, and slightly outwards, expose the palate and the milk tusks, whose points are turned towards each other. The eyes are conjoined and are contained as usual in one cavity formed by the two orbits. *Hunterian.*

81. A Pig, with all the parts anterior to the ears deficient; the opening which communicates with the œsophagus is seen between them: about an inch above this aperture there is a small rounded projection slightly divided on its inferior surface, having the appearance of the extremity of a penis; it is, probably, the imperfect rudiment of an eye-lid, immediately above which, numerous long hairs are growing. *Hunterian.*

82. The anterior part of the body of a similar monstrous Pig. In this specimen there is no external sign of even a rudimental eye. *Hunterian.*

83. A Pig with a similar deficiency of parts anterior to the ears. The small space between the ears, which in some of the preceding specimens is occupied by the aperture leading to the œsophagus, in this, gives rise to a fleshy pedicle or process about two inches and a quarter in length, which terminates in an irregular bulbous and slightly trilobed extremity. The faucial opening is situated nearly an inch below the junction of the ears. *Hunterian.*

84. The head of a fetal cyclop Pig. The elephant-like proboscis arising from the forehead, which usually accompanies this species of monstrosity, is in this specimen deficient. *Mus. Brit.*

85. A Kitten with deficiency of the anterior part of the head: the œsophagus, which terminates by an aperture beneath the ears, is laid open to show its course; a bristle is placed between what appears to be a pair of imperfect eye-lids, which are situated in the centre of the forehead. *Hunterian.*

86. The anterior part of the body of a similar monstrous Kitten: in this, however, there is no appearance of an eye; a lateral section has been made of the head and neck, to show the course of the œsophagus, &c. in the external opening of which a bristle is placed. *Hunterian.*

87. A monoculous Kitten. The thorax and abdomen are opened to expose the viscera. *Hunterian.*

88. A similar monoculous Kitten. *Hunterian.*

89. A fetal Chick, with a defective head and upper mandible. *Hunterian.*

90. The head of a Carp, (Cyprinus Carpio,) with a deficiency of the eye on the left side. *Hunterian.*

91. The anterior part of the body of a Carp, in which all the parts of the head anterior to the eyes are deficient, the mouth opening by a contracted and irregular aperture. *Hunterian.*

Sub-series 2. *Trunk and Extremities.*

92. A female human monstrous and hydrocephalous Fetus, in which there is a partial deficiency of the abdominal parietes extending from the lower

part of the sternum to the umbilicus, through which the greater part of the abdominal viscera has protruded, and is contained in a membranous and slightly pendulous sac: the arms are both ill-formed and defective, the fore-arms being deficient; the left foot and both the hands, on which the thumbs are wanting, are considerably distorted.

There is the appearance of a spina bifida on the lumbar part of the spine. (For a figure of this specimen, see *Museum Drawings*.) *Hunterian.*

93. A female human Fetus, in some respects resembling the preceding specimen. The whole of the abdominal viscera are protruded in a membranous sac, through a deficiency of the abdominal muscles: the sac has been laid open to expose its contents. The calvarium in this fetus is wanting; there is, however, a medullary tumour or imperfect brain attached to the posterior part of the head by a pedicle or base of about three quarters of an inch in diameter. The tumour forms a flattened mass which covers a considerable portion of the upper surface of the head, which otherwise presents the character of an ordinary acephalous fetus; the integuments of the imperfect head appear to be continued over the exposed brain, but at that part become exceedingly thin. *Hunterian.*

94. A male human Fetus at about the fourth month, with protrusion of the viscera in consequence of the absence of the abdominal parietes. There is also deficiency, with preternatural situation of some of the viscera, both thoracic and abdominal, with considerable distortion of the extremities.

The following account of the case, by J. C. Yeatman, Esq. is extracted from the Fifty-second volume of "The London Medical and Physical Journal," p. 367.

"A. W. miscarried about the fourth month of utero-gestation, of a male fetus, which presented the following appearances: the heart, left lung, liver, stomach, spleen, kidneys, and the intestines down to the sigmoid flexure of the colon, are connected to each other and to the spine, by a duplicature of peritoneum. There are no abdominal muscles or integuments, except a very small portion on the left side. The above viscera are bounded by the thorax, loins, and pubes, where the integuments are rounded off, and where they circumvent the viscera, describing a circle round them.

"The heart lies in an investment of peritoneum, in the right hypochondriac region, immediately above the convex surface of the liver; its apex resting on the stomach, near the pylorus, and its margo obtusus lying in contact with the left lung. The left lung, which is particularly small, consists of two lobes, lying in the epigastric region, over the lesser curvature of the stomach; its smaller lobe touching the heart. The stomach occupies its usual situation. The spleen is connected to the stomach at its large extremity. There is no appearance of omentum. The liver, consisting of two lobes, is unusually large, covering the stomach, spleen, kidneys, and most of the intestines; but in the preparation it is thrown aside, its concave part being uppermost, in order to bring the viscera into view. The convex surface of the larger lobe of the liver is bound down to the integuments near the right hypochondriac region, by a broad and strong duplicature of cuticle.

"The left kidney is situated below the spleen and the larger curvature of the stomach, deriving a cuticular covering from the integuments of the left side and loin, which is blended with, and lost in, the peritoneal coat of the intestines. The right kidney is situated between the fetal extremity of the funis and the duplicature of cuticle which binds down the larger lobe of the liver. On opening into the thorax, no diaphragm is perceivable. The right lung, which consists of one lobe, occupies its usual situation, while nothing is contained in the left cavity of the thorax, and that cavity is much narrowed by a lateral incurvation of the spine. The aorta, trachea, and œsophagus, lie on the right of the incurvated spine. The distribution of the blood-vessels is natural, with the exception of the superior cava, which passes to the right auricle of the heart over the right lung, throughout the full length of that organ.

"The left inferior extremity reaches half-way down the thigh of the right. The left thigh lies over the inguin, and is bound down by integument to the pubes. The heads of the tibia and fibula are connected to the inner condyle of the femur, passing from thence at a right angle; so likewise the astragalus, with respect to the internal maleolus.

"A. W. states, that about a fortnight after conception, while walking through a lane, a cow broke through a hedge into the road, close to her;

which so frightened her, that she ran a short distance, and jumped into a dry ditch, remaining there till the animal was out of sight. The funis and placenta were natural. It is my intention to deposit the fetus in the Museum of the Royal College of Surgeons.

September 21*st*, 1824." *Presented by J. C. Yeatman, Esq.* 1825.

Imperforate Anus.

95. The rectum of a female Child nearly two months old, born with imperforate anus, for which the operation had not been performed. *Hunterian.*

Case.—" A female child of the name of Hall, was born on the 25th of July, 1786, in every respect an healthy child to all external appearance; but upon a more particular examination, it was found to have no perforation at the anus, although, externally, the verge had nothing remarkable in it, except being very much contracted; not allowing the point of the finger, or even a common quill to pass, the sphincter ani being so close, or contracted.

"This child living in the country, nothing was done, and it was left entirely to nature; the belly became exceedingly tumid in consequence of nothing passing the rectum; it became very much emaciated; its pulse became smaller and smaller, and it died on the 16th of September.

" Upon examination of the body, the large intestines were found very much enlarged and distended, particularly towards the rectum. The jejunum and ilium were slightly inflamed: the viscera in other respects had the natural appearance. The contents of the colon and rectum were fluid fæces. The rectum terminated in a blind end, just within the verge of the anus, hardly an inch up; and this blind end was only a thin membrane which might with great ease have been perforated."—Hunterian MSS. " Cases and Dissections," p. 138.

See original drawing of this case. *Museum Drawings.*

96. The rectum of a female Child three days old, born with imperforate anus, and for which the operation was performed. *Hunterian.*

Case.—" Mrs. Colley, of No. 51, Piccadilly, was delivered of a healthy female

child, on Tuesday, May 22nd. It was observed, upon examination, the child did not go to stool in the usual time; and it was found to have an external opening at the anus, that it strained very much, and that also it did not make water. The child threw up the milk it sucked. On Thursday Mr. Hunter was consulted, and upon introducing a probe it came to a full stop at about half an inch within the anus. He also introduced the probe into the urethra, supposing there might be a stricture there; but the water flowed. He proposed an operation, but delayed it till the day following, to allow the gut to be as much distended as possible above the stricture. On Friday forenoon about eleven o'clock, the canula of a small trochar filled with a bougie, which projected, giving a rounded extremity, was introduced into the blind opening; and the bougie being withdrawn, the trochar was introduced, forcing whatever was before it, so as to carry the point along the inside of the sacrum, but at some distance from it, as nearly as possible in the proper direction of the rectum, and followed by the canula: the instrument was then withdrawn (the canula being left in), and was followed by meconium in considerable quantity.

"The child was now a little sick for some time after, became low, refused to suck, and in the afternoon was convulsed: in the evening the canula was withdrawn, and a bougie introduced, which passed very readily. No change, however, was induced, and the child died in the night.

"On Sunday morning the body was examined, and the operation was found to have perfectly answered the purpose intended, and to have wounded nothing but the imperforated extremity of the gut, which obstructed the passage of the contents of the intestine. This obstructed part was not more than one twelfth part of an inch in extent, and the canula had been directed to it by the rounded end of the bougie; the intestine above being distended, brought the stricture more in the line of the intestine, which being enlarged, more directly opposed the trochar." —MSS. "Cases and Dissections," p. 136.

97. The rectum of a male Child, upon whom the operation for imperforate anus

was performed with success. This preparation is one of considerable practical interest, as it shows to what an extent it may be sometimes necessary to introduce the trochar, in the operation for puncturing the rectum, before it reaches the extremity of the gut;—in this instance to the extent of three inches.

The following are extracts of the above case, published in " Practical Observations in Surgery," by Alex. Copland Hutchison, Esq. 2nd edit. p. 266.

" The fourth and last case was the son of Mr. Smith, a tinman, residing at No. 43, Whitcomb-street, and had been born forty-eight hours when the operation was performed, on the 17th Nov. 1822, in the presence of my colleague Dr. Granville, the father of the child, and the midwife.

" The raphe was the only guide we had for the operation, there being neither hollow nor depression to mark the spot where nature had failed in completing her design.

" The operation was performed by making an incision about an inch and a half in length with the scalpel, through the skin and fat, nearly as deep as the incision was long, but narrowing it two thirds at its fundus. Not having reached the intestine with the scalpel, and considering that we could not so safely proceed further upwards in the direction of the gut with that instrument as with the trochar, the latter instrument was preferred, and directed gently upwards, backwards, and inclining to the direction of the sigmoid flexure of the colon for about an inch ; when, on withdrawing the stilette, we found the intestine had not yet been reached; the stilette was therefore again passed through the canula, which was still kept in the parts, and pushed upwards half an inch farther, when, from a want of resistance, I suspected we had at length succeeded ; and on withdrawing the stilette a second time, meconium flowed through the canula in considerable quantity.

" The canula was secured by tapes, and retained in the parts three days. It was then withdrawn, cleaned, and again introduced, the fæces passing through it during that period.

" After about a week or ten days, the canula was removed, and sponge tents employed, but were laid aside from their inefficiency. The com-

mon smooth-made bougie of the largest size, was, after some weeks, substituted, and was found to answer the purpose much better.

" The tents used were about three inches and a half in length; and as they were introduced close up to their thickest extremity, we ascertained precisely the distance of the intestine from the surface, by measuring the tent with a scale; the end of the part tinged with bile indicating the termination of the gut, and the verge of the newly-formed anus marking the length of the artificial canal, and which we found to be exactly *three inches.*

" The child's bowels were occasionally constipated for two or three weeks; but this was as frequently obviated by the administration of small doses of oleum ricini.

" At the end of three months, it was observed, for the first time, that its urine was in some degree tinged with fæces. The child fed well, grew, was healthy, and some teeth appeared at the usual period; yet still the urine continued to be tinged; and until the morning of the day on which it died, the 29th Sept. 1823, (being more than ten months after the operation,) I heard of no one circumstance to lead me to suppose that the child had been otherwise than well.

" On examining this child, post mortem, the artificial anus was found situated in a hollow, so precisely as if it had been originally natural; and this fact is the more worthy of record, when it is borne in mind, that at the period the operation was performed, there did not appear the smallest depression or fissure on any part along the line of the raphe, both nates preserving a continuous convex surface.

" The rectum was found to be large, and distended with air; its circumference at five inches above the external aperture being six inches and three quarters.

" A section of the bladder and urethra was made anteriorly, when a small valvular aperture was discovered communicating with the rectum, and situated about the eighth of an inch anterior to the caput gallinaginis; the aperture into the urethra admitting only of the passage of thin fæces, it being barely sufficient to admit the end of a common probe, but from its valvular structure precluded the urine from passing per anum.

" The rectum was found to be considerably thicker than usual, parti-

cularly towards its lower part, probably from the increase of muscular force required to project the fæces through the long and narrow canal from the termination of the gut to the external parts, a distance (even after the removal of the parts, and maceration in spirit for a fortnight,) of one inch and a quarter.

" It is curious to observe in the preparation, how in one part the mucous membrane of the rectum approaches, in a conical form, towards the verge of the artificial anus ; and how, in like manner, the external skin passes upwards to meet the descending mucous membrane, so that in one part of the artificial canal will be seen, meeting each other, the villous coat of the intestine and the external skin, like a dove-tailing of conical processes." *Presented by A. Copland Hutchison, Esq.* 1823.

98. The rectum of a female Child, born with imperforate anus, for which the operation was performed.

" Case. — A female Infant, named Mary Scanler, was born with imperforate anus. The usual mark or hollow in the situation of the natural anus was most distinct. Upon making pressure over the abdomen with my hand, I could not discover any particular fulness or tension of the parts; and therefore, profiting by past experience, I proposed to delay the operation till the following day, by which we would ensure a greater distension of the rectum with meconium, when the operation should be performed. On the 21st of November, just sixty hours from its birth, I performed the operation after the usual manner, when, at a distance of an inch and a half from the surface, we had the satisfaction of penetrating the intestine with a trochar, through the canula of which a quantity of meconium instantly flowed.

" The child died on the 28th of December, without evincing any symptoms of acute disease; and leaving an impression on my mind, that there had been gross neglect on the part of the nurse.

" The next day the cavities of the chest, abdomen, and pelvis were examined, when not any appearance of disease could be traced. The parts were carefully removed, and are now in the Museum of the College of Surgeons."—Med. Gazette, vol. i. p. 241.

Presented by A. Copland Hutchison, Esq. 1828.

99. The rectum of a Child born with imperforate anus.

Presented by Sir William Blizard.

100. The rectum of a Child born with imperforate anus.

Presented by Sir William Blizard. 1819.

101. The imperforate rectum of a Pig. *Hunterian.*

102. The imperforate rectum of a Pig. *Hunterian.*

103. The imperforate rectum of a Calf. *Hunterian.*

104. A male human Fetus at about the fifth month, having an abortive arm on the left side, in the form of a small fleshy projection, about three quarters of an inch in length, the extremity of which is somewhat trilobed, and has a short filiform process extending from it. *Mus. Brookes.*

105. A human Fetus, with deficiency of both the inferior extremities: the trunk terminates in an obtusely rounded stump about two inches in length, at the extremity of which there is a depression somewhat resembling an anus. *Presented by Sir William Blizard.*

106. A similar monstrous human Fetus. In this specimen there is a slight projection, like the rudiment of an extremity, arising from the sacral surface of the body. *Mus. Brit.*

107. A tumour, of considerable dimensions, which was removed by operation from above the nates of a Child about fourteen months old; which appeared to possess the rudiments of an additional extremity. On examination, after its removal, it was found to contain several hard ligamentous tubercles, and small portions of cartilaginous substance, but not any bony structure. At the junction of the tumour with the body of the child from which it was removed, was a portion of intestine about three inches in length, perfectly insulated, and having no communication with those of the child, but containing a fluid matter, in colour and consistency greatly resembling meconium. This portion of intestine terminated, at each extremity, in a cul de sac. The child quickly recovered from the effects of the operation. *Presented by Thomas Blizard, Esq.* 1816.

A very analogous case is registered in "Medical Facts and Observations," vol. viii. p. 1. 8vo. 1800.

108. A female human Fetus, the superior and inferior extremities of which are preternaturally short, the hands and feet being perfectly formed.—The following is a record of its birth.

" Rebecca, the wife of James Gane, aged 30, was delivered on the 4th of May, 1825, of a still-born eight-months child (being her first pregnancy); it was a presentation of the feet, and the labour was of short duration. The father and mother appeared healthy and well formed."

Presented by Wm. Lyon, Esq. 1825.

109. A Cat, born with the anterior extremities deficient. In all other respects it is a well-formed and perfect animal; the want of its fore-legs was in a great degree compensated by the increased muscular power and size of the posterior legs and tail, of which it made the same use in the erect sitting posture as a Kanguroo. It was sufficiently active in all its ordinary movements, and would with ease spring up or down a height of four or five feet. *Presented by Mr. Wm. Clift.*

110. A fetal Puppy, with a similar deficiency of the anterior extremities. *Mus. Brit.*

111. A fetal Puppy, with the legs, especially the posterior ones, so extremely short, as to present the appearance of feet alone, arising from the body. *Hunterian.*

112. A fetal Puppy, with malformed and diminutive posterior extremities. *Mus. Brit.*

113. A fetal Pig, in which, from a deficiency of part of the thoracic and abdominal parietes, the heart, liver, and the greater part of the intestines, protrude externally; they are contained in a very thin membranous sac, which has been opened on its inferior surface to expose its contents. *Hunterian.*

114. A portion of the left hip of a Boar, which had the leg of that side deficient, and in its situation a small nipple-like process. *Hunterian.*

" The animal had no kidney on the left side, but there was a capsula renalis as large as on the right. The testicle of the right side was large, and in the scrotum as usual; but the testicle of the left side was in its original place, viz. the loins. There was no gubernaculum or cremaster

muscle of that side, and the parts leading into the scrotum had not the usual appearance, so that there were not the leading causes for the descent of the testicle. The left testicle also was smaller than the right, which is always the case with those testicles which remain in the abdomen after the usual time for their descent. There was no epididymis to that testicle, nor vas deferens, nor was there that body called vesicula seminalis; and the prostate gland was smaller on that side."—Hunterian MSS. "Cases and Dissections," vol. iii. p. 170.

115. The right posterior foot of a Pig, having one of the toes deficient. *Hunterian.*

116. The left posterior foot of the same Pig, with a similar deficiency of the toe; there is, however, a very imperfect or rudimental hoof projecting from the side of the foot, about an inch from the single toe. *Hunterian.*

117. A fetal Pig, with the posterior part of the body defective, and having ill-formed and diminutive posterior extremities, which are solidungulous. *Hunterian.*

118. The foot of a young Pig, having the toes connate. *Hunterian.*

119. The two anterior feet of a similar solidungulous Pig. *Presented by Sir William Blizard.*

120. The foot of a solidungulous Pig. *Presented by Sir E. Home, Bart.* 1810.

121. A common Mouse (Mus Musculus) full grown, which from its birth had not the slightest appearance of hair upon its skin, being perfectly naked. *Presented by Mr. Clift.* 1820.

122. A Fowl, which was hatched almost entirely without feathers, and so remained till the period of its death, in June 1807, when about seven months old. *Purchased.*

123. A Chick, hatched with the right leg deficient. *Hunterian.*

124. A Frog, with deficiency of the right anterior extremity. *Hunterian.*

125. A Star-fish (Asterias glacialis), with two of its rays connate. *Presented by the late Taylor Combe, Esq.* 1819.

Sub-series 3. *Organs of Circulation.*

126. A section of the left ventricle of a human Heart, from a subject ten years of age; in which there are only two semilunar valves existing at the root of the aorta. *Hunterian.*

127. A human Heart, with the right and left ventricles opened, to expose an aperture in the septum ventriculorum, which, during life, allowed a free communication between them.—The following is an account of the post mortem examination of the subject, a youth aged thirteen, from whom it was removed, (with reference to the malformation of the heart,) by the late John Heaviside, Esq. June 1803.

" The thorax was first opened: on removing the sternum and cartilaginous parts of the ribs, both lobes of the lungs appeared very small and collapsed, particularly the right lobe; and on making an incision into them, their texture was much firmer than natural.

" On opening the pericardium, very little water was found in it. The large vessels going to, and from, both sides of the heart, as also the coronary vessels, were all greatly distended, more especially the veins, with the darkest coloured blood I ever saw.

" The heart itself was unusually small. The auricles and ventricles were distended, being full of grumous blood.

" On examining the septum between the ventricles, an oval opening (or nearly of that figure), with a cartilaginous margin, was discovered through it, at the basis of the heart, close to the origin of the aorta, and with which the aorta communicated.

" I then cut the aorta across, just below its curvature, and on passing two probes into the vessel where it had been divided, both went into this opening, and from it one probe divaricated into the right ventricle, the other into the left ventricle, going through this opening, and lying on each side of the septum below the opening, thereby proving the aorta originating in, and receiving its contents from, both ventricles by this foramen. There was not any peculiarity in any of the valves in either side of the heart, or in those of its vessels. On inspecting the pulmonary artery, it was found of its natural size, structure, course, and termi-

nation. The aorta itself was not any where enlarged, or at all different from an aorta with a perfect formation of heart. The foramen ovale was completely closed. The ductus arteriosus imperforate. The carneæ columnæ in the right ventricle appeared larger and stronger than usual, as seemed also the substance of the parietes of the ventricle itself.

"The smallest vessels of the pleura, and those throughout the whole intestinal canal, were as full as the finest and most successful injection could have made them; but their colour resembled universally in appearance a portion of incarcerated intestine just beginning to turn livid, or as if they had been injected with powder blue, or even with blue verditer.

"The liver was larger, and occupied more of the left side than it generally does; its structure was undiseased. The viscera of the abdomen in general were perfectly sound, and had no peculiarity except their colour arising from the universal morbid circulation, owing to a deficiency probably of the proper quantity of blood circulating through the lungs by its natural course of the pulmonary artery, which was prevented by the aorta opening into both ventricles, and therefore, to a certain degree, receiving the contents of both." *Mus. Heaviside.*

See an original drawing of the heart by Mr. Clift. *Museum Drawings.*

128. An adult human Heart, having a similar aperture of communication between the ventricles, through the septum. *Purchased.*

129. The auricular septum of an adult human Heart, to show the foramen ovale remaining open. *Hunterian.*

130. The Foramen ovale open, in a subject sixty years of age. *Hunterian.*

131. An adult human Heart, with the foramen ovale open.
Presented by Sir William Blizard. 1811.

132. An adult human Heart, with the foramen ovale open.
Presented by Sir William Blizard. 1811.

133. A small human Heart, with the foramen ovale open.
Presented by Sir William Blizard. 1811.

Sub-series 4. *Organs of Digestion.*

134. The liver of a human Fetus, with deficiency of the gall-bladder and hepatic

duct; a portion of the duodenum is left attached, to show that it is connected with that viscus by blood-vessels only. *Hunterian.*

135. The liver of a human Fetus, with a similar deficiency of gall-bladder.
Presented by Anthony White, Esq. 1826.

Sub-series 5. *Urinary and Genital Organs.*

136. The parts connected with a deficiency of the abdominal muscles immediately above the pubis, with protrusion and malconformation of the urinary bladder, in a male Child about a month old.

In this, as in other analogous instances of this species of monstrosity of the urinary organs, the everted and imperfect bladder (the anterior half being wanting) forms a soft and rounded tumour, which is situated upon that part of the abdomen in front of the separated pubic bones, where the skin and muscles are deficient, and through which opening the posterior part of the bladder is protruded. Upon the surface of this vesical tumour the ureters terminate, and are marked in the preparation by bristles placed in their orifices.

The penis is exceedingly short, consisting of little more than the glans, and an appearance of prepuce beneath ; this slightly projecting body is impervious where the canal of the urethra should exist, the situation of which is indicated by an indistinct vertical depression, on either side of which the seminal ducts appear to open. The scrotum is well formed, but the testicles have not descended.

Presented by Lionel J. Beale, Esq. 1829.

See an original drawing of a similar case. *Museum Drawings.*

137. The penis, scrotum, and bladder of an adult, in which the urethra becomes impervious at the distance of three inches from its external opening; a canal or false urethra, communicating with the neck of the bladder, and by which the urine was discharged, opens externally immediately beneath the penis; this canal has been laid open throughout its whole course, and is extended upon bristles placed transversely: there is also another passage opening near the neck of the bladder, which terminates

immediately behind the scrotum, at the commencement of the raphe, and has the appearance of a fistulous canal. *Hunterian.*

138. The penis and bladder of a Child which died in St. George's Hospital, in whom the existence of a stricture in the urethra had been suspected.

The preparation shows a deficiency of continuity in the canal of the urethra, at about half way between the glans penis and the crura, which forms an aperture that communicates with a sac about the size of a walnut, apparently formed by condensed cellular substance.—Nothing of the history of this case is known; but from the small size of the parts, there is little doubt that the appearances they present are congenital. *Hunterian.*

139. The lower part of the abdomen of a human Fetus, showing a conjunction of the kidneys by a band continued from their inferior extremities across the lumbar vertebræ; forming what is usually denominated a "horse-shoe" kidney. *Presented by Sir William Blizard.* 1811.

140. A similar specimen of horse-shoe Kidney, from an adult human subject. *Mus. Brookes.*

141. The external organs of generation of a female Child. The clitoris and its prepuce are preternaturally enlarged, separating, by their size, the labia, and almost totally obliterating the nymphæ. The situation of the vagina is indicated by a very small external aperture about the diameter of a crow-quill, and is almost concealed by the clitoris; bristles have been introduced into the urethra and vagina, which in all other respects are perfectly formed and natural. *Hunterian.*

142. The external organs of generation of a female Child, in which, at its birth, the rectum terminated in the vagina immediately within the hymen. An artificial anus was made, which, however, did not answer sufficiently the purpose intended, until the artificial and natural openings were laid into one; this afterwards succeeded very well, and accounts for the extreme narrowness of the perinæum. *Hunterian.*

143. Imperfect external male organs of a Lamb. The body of the penis is deficient; but from a small aperture in the perinæum, where the urethra erminates externally, there is an imperfect urethra or groove continued

downwards towards the scrotum, which is bifid; at which part an impervious glans penis and prepuce exist. *Hunterian.*

Reference is made to this imperfect state of the external generative organs, in the "Animal Œconomy," p. 61. where Mr. Hunter remarks,—

"Hermaphrodites are to be met with in sheep; but, from the accounts given of them, I should suppose that they are not Free-Martins. I have seen several which were supposed to be hermaphrodites, but which were imperfect males, having the penis terminating in the perinæum; the orifice of which appeared like the bearing in the female. Such are not naturally stimulated to put themselves in the position of the female when they void their urine, so that when it passes, the surrounding parts are wetted by it, and being covered with wool, and retaining the urine, it keeps them constantly moist, and gives the animal a strong smell."

144. The generative organs of a similarly defective Sheep. *Hunterian.*

145. Imperfect male organs of a Sheep. The penis is deficient, the urethra terminating externally in the perinæum, about an inch and a quarter from the anus. *Hunterian.*

146. The glans penis and prepuce of a Sheep, with similarly defective parts. *Hunterian.*

Sub-series 6. *Brain and Nerves.*

147. A female human acephalous Fetus. The anterior parietes of the abdomen and the abdominal viscera have been removed, showing the kidneys in situ, and the renal capsules, which are exceedingly diminutive in size, being scarcely one-fifth of their natural magnitude. *Hunterian.*

148. The body of a human male acephalous Fetus, nearly at the full time. The spinal canal has been laid open throughout its whole course: the medulla spinalis, as usual in such cases of monstrosity, terminates in an expansion that partially lines the cavity formed by the cervical extremity of the canal, and from which arise small filaments which are marked by bristles, and distributed over its surface beneath the thin covering membrane, similar to a spina bifida.

A thin and transparent membranous sac occupies a considerable por-

tion of the upper surface of the head, and contained the brain (if such it might be called), the substance of which was as fluid as cream, having not the least distinction of parts, or of colour. On attempting to trace the optic nerves, neither their junction nor course in the brain was discoverable; the same was noticed with regard to the other nerves. A bristle has been placed beneath what appears to be part of the fifth pair, passing through foramina in the sphenoid bone.

There is also a divided or hare-lip, from which a fissure extends through the palate on the right side. *Hunterian.*

149. The body of a female human acephalous Fetus. In this specimen, also, the medulla spinalis is exposed; the membranous sac situated on the summit of the spinal canal, and with which it communicates, is opened, in order to show the nervous filaments spread upon its internal surface.

Hunterian.

150. A female human acephalous Fetus, at the sixth month. A cerebral tumour, slightly bilobed, partly covering and partly pendulous from the occipital part of the head, is contained in a thin membranous sac, through which there is a slight appearance of convolutions.

Presented by Wm. Copeland, Esq. 1828.

151. A male human acephalous Fetus, at the birth. When born it showed no other signs of life than a slight movement of the legs; but it retained its warmth in a considerable degree for some hours.

Presented by John Abbey, Esq. 1826.

152. A female human acephalous Fetus, at the birth.

Presented by Sir William Blizard. 1811.

153. The upper portion of the medulla spinalis (exposed in the vertebral canal) of a Lamb born with a total deficiency of head. The medulla terminates in a slightly expanded and obtuse extremity; the cervical nerves arise naturally. *Hunterian.*

Spina bifida.

154. The sacrum of an adult human subject, with a spina bifida; the sac, covered by the integuments, is laid open. *Presented by Sir William Blizard.* 1811.

155. The last three lumbar vertebræ and sacrum of a Child, with a spina bifida. A bristle is placed beneath the lumbar nerves at their origin from the medulla spinalis. *Hunterian.*

Case.—"J. Bogle was born with a spina bifida just upon the sacrum. It was at first a swelling about the breadth of half-a-crown, covered at its circumference with true skin; but in the middle there was a sort of solid gelatinous skin, that seemed not to be vascular. The child had no use of its lower limbs from birth. It was at first pretty healthy; the tumour broke and discharged water mixed with purulent matter; it began to be ill, left off sucking and eating, and died." *Hunterian MSS.* "Dissections," vol. iii. p. 47.

156. A section of the sacrum and lumbar vertebræ of a Child, born with a spina bifida, and which lived a fortnight; the lower end of the medulla spinalis is lost in the sac, from which the lumbar nerves pass out. *Hunterian.*

Case.—"A child of the same parents as the subject of the preceding case, was born with a spina bifida. The swelling was just at the lower part of the sacrum, much like the other, but black in the middle, where it was yellow and gelatinous in the former. The child was very healthy for five or six days, and had the use of all its limbs, but the tumour broke on the day after birth. The child fell ill, and continued so till death, which was about a fortnight after birth; all this time it was very restless, seemed to be in pain, and hardly ate or drank any thing after it was taken ill; however, it had the use of its lower limbs till death. I took out the last three vertebræ of the loins, and the whole sacrum and coccygis, and observed, when I cut through the medulla spinalis, that it was of a dark brown colour. To see if the medulla was diseased much higher, I slit up the spine with a pair of scissors, and found that the medulla was become quite rotten as high up as the middle of the back, and all above that it was as common: but its substance had become softer; no nerves could be traced arising from it; its colour was changed from white to brown; its coat of pia mater was destroyed, so that it lay within the dura mater like an irregular mass, and it was very offensive to the smell. The body of the child was opened the evening it died, so that this rottenness was before death.

" When I examined the spina bifida, I first cleaned the nerves coming through the holes of the spine and sacrum, and found them strong and sound as usual: I then traced them into the medulla, cutting off the transverse processes, and all of the bone that covered them. The first four of the sacrum let me into the middle of the bag; then passing through its middle, making a kind of partition dividing it into two, and their extremities seemed to be fixed to the most prominent part of the bag where it was black; but as it had burst at this black part, so that it was almost destroyed, the nerves by that means became more loose at their ends, or at this adhesion. The cauda equina terminated in the same part likewise, so that here seemed to terminate the medulla, and the sacral nerves to begin: the last lumbar nerves seemed to come partly from the cauda above, and partly from below, which was now by a loose end; and the first, second, and third sacrals by loose ends in this bag, and which were attached (before the bag was broken) to the black part."—*Hunterian MSS.* " Dissections," vol. iii. p. 47.

157. The last three lumbar vertebræ and sacrum of a Child at the birth, to show the opening of a spina bifida at its posterior part. *Hunterian.*

158. The base of the skull of a Child three days old, with the cervical, and some of the dorsal vertebræ attached, in which a spina bifida existed in the neck, and where the double ligature had been applied; the operation produced convulsions, and the child died.

Presented by Anthony White, Esq. 1827.

Sub-series 7. With Addition.

159. A male human Fetus, nearly at the full time, in which both the eyes are conjoined, and contained in one orbital cavity, occupying the centre of the face: there is deficiency of the true nose, the intervening space between the Cyclops eye and the mouth being perfectly smooth; immediately above the eye, however, a tubular projection or proboscis, about an inch in length, and slightly tapering towards its open extremity, arises from the forehead. The ear and thumb of the right side are but imperfect rudiments of the parts whose situation they occupy. *Mus. Brit.*

160. A monstrous Pig. In this specimen, the globes of both eyes are in contact, not any septum existing between them; and, as in the preceding human fetus, they are contained in a single orbit, being visible by one aperture, or pair of eye-lids, which open above a very imperfectly formed upper jaw, and give the appearance of a single eye. Above the conjoined eyes arises a prolonged snout or proboscis, about two inches in length, perforated throughout by a canal, which opens at its extremity by a single orifice.

Monsters of this description, from the existence of the central eye, and the proboscis, are usually denominated Cyclops or Elephant Pigs. *Hunterian.*

See a drawing of a similar monster. *Museum Drawings.*

161. A similar monoculous Elephant Pig. *Hunterian.*

162. A similar monoculous Elephant Pig. A longitudinal section of the proboscis has been made for the purpose of exposing the internal canal, or nostril, the course of which is indicated by a bristle. *Hunterian.*

163. A similar monoculous Elephant Pig. *Mus. Brit.*

164. A similar monoculous Elephant Pig. *Mus. Brit.*

165. A monoculous Elephant Pig, born alive, but destroyed twelve hours after birth by the parent sow.—In this specimen, the brain and proboscis were examined, and the following account of the dissection may be considered as descriptive of the same parts of similar monsters.

" In this instance the proboscis was supported by a process of the frontal bone, the outer table of which was separated from the inner, and was produced in a tubular form outwards and downwards for the extent of an inch; beyond this, the proboscis consisted of fibro-cartilage, and terminated in a flattened disc, with a transverse slit or aperture, which conducted into the cavity of the proboscis; the cavity was lined by a smooth shining membrane, and contained an elongated turbinated bone. At the further extremity it received a few minute filaments which arose from the anterior lobes of the brain, in the situation, or a little above the origins, of the olfactory nerves.

" The brain did not fill the whole cavity of the skull, but exterior to it was a quantity of serum filling the intermediate space. The cerebrum presented a singular appearance: it consisted chiefly of the corpora quadrigemina and optic thalami, over which was a thin layer of medullary matter, or fornix, which was reflected from before, backwards, like a hood, becoming mere pia mater at the posterior edge; the single cavity or ventricle thus formed, contained serum, and at the posterior part lay the choroid plexus.

" The pineal gland was attached, as usual, to the optic thalami. The cerebellum appeared to be perfectly formed.

" Below the proboscis was situated the cyclops eye, composed of two eyes blended together, having two distinct corneæ, two lenses, and two lachrymal glands, one at each side. There was no aqueous humour behind the corneæ; the choroid coat appeared to be continued over the lenses, in contact with the corneæ.

" The optic nerves were conjoined at their exit from the skull, but arose separately from the optic thalami.

" Beneath the eyes there was a white projecting bag, which externally appeared like a third eye, but on opening it, it was found to contain the capsule and pulp of an incisor tooth.

" The upper jaw was deficient in front; the lower jaw and tongue were perfect, the latter fringed, as is usual."

Presented by Gerard Smith, Esq. 1830.

166. The head of a similar monoculous Elephant Pig, with the upper part of the skull removed, to show the diminutive size of the brain; a bristle is placed in the canal of the proboscis. *Hunterian.*

167. The anterior part of the body of a similar monoculous Pig. *Hunterian.*

168. The anterior part of the body of a similar monoculous Pig. *Hunterian.*

169. The anterior part of the body of a monoculous Pig, without the existence of a proboscis. Immediately above the eye is situated a membranous sac containing fluid, which communicates with the cavity of the cra-

nium. The sac appears to be covered by the common integuments of the head. *Hunterian.*

170. The anterior part of the body of a female monoculous Elephant Pig. In this specimen all the natural parts anterior to the cranium and ears are deficient. *Presented by Sir E. Home, Bart.* 1810.

171. The head of a monoculous Elephant Pig. *Hunterian.*

172. The head of a monstrous Pig, in which there are the rudiments of a second mouth, containing a tongue and teeth, situated beneath the lower jaw. The palate of the true head is divided, the fissure extending through the snout; the right eye and ear are also very imperfectly developed. *Hunterian.*

173. An acephalous monstrous Pig, having two defective heads conjoined; presenting separate mouths, and snouts, anteriorly. There are only two ears, which are situated naturally; as are the two external eyes, one on each side; between which, however, in the mid-space, there is a third or central eye, formed by the junction of the two approximated orbits and their contents. The animal was farrowed alive at Whitechapel in 1815. *Purchased.*

174. A monoculous fetal Puppy, having the usual proboscis, or tubular snout, which is generally found to exist in animals born with central or conjoined eyes. *Mus. Brit.*

175. A monoculous Kitten. The proboscis, which is but little developed, has its canal marked by a bristle which is placed in the orifice. *Hunterian.*

176. A monster Puppy, with an additional posterior extremity, which from the heel forwards presents the appearance of two extremities conjoined, having a divided palm and six toes. The abdomen is opened, and the greater part of the viscera removed, in order to show a deficiency of the right kidney, and a duplex state of the rectum, bladder, and vagina. The secondary rectum and bladder unite and become impervious at the anus; the openings of the two vaginæ and the proper rectum are marked by bristles. *Hunterian.*

See *Museum Drawings.*

177. A fetal Puppy, with deficiency of the upper and lower jaws. There is a small transverse fissure situated between the proboscis, (which is perforated by a canal,) and a rounded projection occupying the situation of the lower jaw. *Hunterian.*

178. Twin fetal Puppies, closely united by the abdomen and thorax. The head appears single, but is exceedingly defective, and is formed by the conjunction of two monoculous heads, in which the ears occupy on each side the usual situation in monsters of this kind; viz. approximating closely at their origin, and leaving a small opening between them, that communicates with the œsophagus beneath each cyclops eye.
Presented by Sir William Blizard. 1811.

179. A double-headed acephalous Chick, in which the skulls are conjoined, producing a double pair of mandibles in front; there is, also, a third or central eye, formed by the conjoined orbits. *Hunterian.*

180. A similar monstrosity in a fetal Guinea-fowl (Numida Meleagris).
Presented by Mr. Belfour. 1818.

181. A double-headed acephalous Chick, which has two well-formed superior mandibles, but with a single one beneath, which projects between them at the angle of bifurcation. There is an additional pair of legs arising from the abdomen, a little above which, is also a pair of small rudimental wings. *Presented by Sir William Blizard.* 1811.

Sub-series 8. *With Union, or Preternatural Connexion.*

182. Human female Twins, united; the junction extending from the inferior end of the sternum to the umbilicus. There appears to be a deficiency of the muscles of the lower part of the abdomen, in consequence of which a sort of congenital hernia has been produced; and from the sac containing part of the abdominal viscera, the funis, which is single, arises.
Hunterian.

183. Human female Twins, born at the full time, conjoined in a similar manner.
Presented by George D. Friend, Esq.

The following history of the case is extracted from a letter which accompanied the preparation.

Case.—"Anne England was delivered of the Lusus Naturæ presented to the Royal College of Surgeons. On Wednesday, the 3rd instant I was sent for about four o'clock in the morning, and found her in labour; the os tincæ was but little dilated, enough however to discover a natural presentation, the pains being feeble, and the os uteri dilating slowly. About ten o'clock the pains became much stronger, still but little progress was made. About noon I examined again, and found a face presentation, the face towards the pubis; knowing from that circumstance more time would be required, I waited until four o'clock; still the labour was very slow, and so continued until twelve at night, when the pains became very strong, and the os uteri completely dilated, the head descending very slowly till about one o'clock, when perineal tumour was formed, and about two the head was expelled; but I found, while waiting for the pains to expel the shoulders, the face did not make the necessary turn to the ischia as usual; I endeavoured to make the turn, but failed. Supposing the shoulders were confined in the bones of the pelvis, I made a blunt hook of my finger, and brought down one arm, and then the other: the pains became exceedingly strong, yet no further progress was made. Supposing the body might be very large, I used considerable force to extract it, during the pains, and found on a second attempt a sense of something lacerating, as if the funis was tearing away from the placenta: the hand was then introduced along the body of the child (with very great difficulty) to ascertain the cause; I then discovered the abdomen of another child, attached; the chest was in some measure lacerated, this accounting for the sense of tearing before mentioned. A little hemorrhage coming on, I resolved to bring down the feet of the first child; I succeeded in this, and the breech and shoulders were doubled almost together, the abdomen attached to the other remaining in utero. In order to bring down the legs of the second child, I introduced my hand between the feet of the first child and the perinæum; this was also accomplished with great difficulty. I found the feet thrown back in the uterus, the chin resting on the os pubis, and the abdomen protruding into the vagina. I then brought down the feet and delivered my patient, but not without considerable difficulty.

"I have delivered the woman four times, and twice she has had a deformed child. In the one the gastrocnemius of each leg was attached to the biceps flexor crûris, and the feet appearing as if growing out of the gluteus, leaving only a small portion of the tendo achilles separate. This child was still-born. The second was also still-born, and had no fore-arms, the hands being formed at the elbows.

GEORGE DEAR FRIEND."

"*Newington, near Sittingbourne, May 24th,* 1815."

184. Human female Twins at the birth, similarly united. The cavities of the thorax and abdomen have been opened, to show the hearts, livers, &c. which are conjoined. *Hunterian.*

185. Human female twin Fetuses, at about the seventh month, similarly united.

The following is an extract of a letter from Whitlock Nicholl, Esq. to Sir Joseph Banks, Bart., by whom the above specimen of monstrosity was presented to the Museum.

CASE.—"The children are females, and they are united by the chests and the epigastria. On opening into the thorax and the abdomen, I found great difficulty in examining and in separating the viscera, owing to the preparation having been, I believe, very long in spirit. The liver appeared double, somewhat like a bivalve shell, the lower liver having its convex surface turned downwards, but both were closely united at the posterior part. Each liver was furnished with a gall-bladder. There were two stomachs, which with the short duodenum proceeding from each, lay in the fissure between the two livers, closely embracing the double viscus. The duodena at a short distance from their origin united, so as to form one intestine, which canal continued single to the extent of about two feet; at this point it became double, and continued so, the extremity of each canal terminating at the anus of each fetus. The length of each canal from the bifurcation to the extremity of the rectum was about two feet. At the distance of about twelve inches from the bifurcation there was a cæcum belonging to each canal, with its vermiform appendage. There were two small spleens, and two sets of kidneys. I could not make an accurate examination of the thorax, owing to the brittle and tender

state of its viscera, but I ascertained that there was but one heart, which was an oblong viscus; I could not examine its structure, for the reasons which I have assigned. WHITLOCK NICHOLL."

"*Ludlow, March 1st*, 1817."

186. Human female twin Fetuses, at about the fifth month of gestation, united in the same manner as the preceding specimen. *Mus. Brit.*

187. Human female twin Fetuses, at about the fourth month, similarly united. *Presented by Sir William Blizard.* 1811.

188. Human female twin Fetuses, from Grenada. They are united in a similar manner to the preceding specimens, and appear to be at about the second month of gestation. *Presented by Sir E. Home, Bart.* 1804.

189. A human female twin Monster at the birth, in which the necks and bodies are conjoined. There is but one head, which, externally, appears to be perfectly formed. One of the arms on the right side of the body presents a distortion at the wrist, the hand being attached to the fore-arm at nearly a right angle. *Hunterian.*

190. A human female twin monster Fetus, at about the seventh month of gestation, the bodies and heads of which are united. The latter are obliquely conjoined, presenting a single face, which has a lateral aspect, and having nothing indicative of features on the opposite side, but two well-formed ears in close contact at their lobes, with one meatus common to both, opening between them. *Mus. Brit.*

191. A human female twin monster Fetus, brought from the East Indies in 1805; in all respects resembling the preceding specimen, except that about three quarters of an inch above the pair of posterior approximated ears, there is the appearance of a small transverse fissure, in its situation resembling that occupied by the eye in some of the preceding examples of cyclops animals. *Presented by Sir E. Home, Bart.* 1807.

192. A female twin Monster, between the seventh and eighth month of gestation, of which a woman was delivered in the Cork Lying-in Hospital, by Dr. M^{c}Namara, on the 2nd of April, 1820. From the umbilicus upwards, the bodies are conjoined, as are also the heads (in that respect resem-

bling the two preceding monsters); in this, however, there is a perfect face existing on either side, and laterally placed as regards the position of the united bodies. The labour was exceedingly tedious, attended with convulsions, and did not terminate in less than forty-eight hours, but without the assistance of instruments. The fetuses lived for four or five minutes. There was but one funis and placenta. The ossa temporalia are wanting: the other bones of both heads are perfect. The ossa frontalia are situated laterally, and intimately connected with the ossa parietalia of both heads. The thorax of each, as well as a certain portion of the abdomen, are closely connected. From the lumbar vertebræ, every thing is perfectly natural. *Presented by the late Thomas Sharp, M.D.* 1820.

193. A human female twin monster Fetus, at the fourth month of gestation; in all particulars resembling the preceding specimen. *Mus. Brit.*

194. A human female twin monster Fetus, with the bodies conjoined in a similar manner to those of the two preceding specimens. The united heads, however, differ essentially in regard to the position of the faces, which are joined together, and present a double set of features on one side; the central or inter-nasal orbits are united into one, and the duplex face is bounded by two well-formed ears, one appertaining to each fetus.

Hunterian.

195. A human female twin Monster, the bodies of which are united in a transverse direction.

The following account of the specimen is extracted from a paper entitled, "Particulars concerning the Structure of a Monster Fetus," by M. Maunoir, Professor of Surgery at Geneva. Read Jan. 23, 1816. Med. Chir. Trans. vol. vii. p. 257. (With Figures.)

"It was born of a young woman of between 16 and 17 years of age, at the beginning of the year 1815, and lived a few minutes. The labour presented no particular difficulty; the perfect head was born the last.

"One of the heads of this double fetus is perfect; the other is more than imperfect; for in the place which it ought to have occupied, the rudiments of the cranium and face only are met with. The perfect head may be designated as the superior one; the inferior one being that

of which only a few rudiments are found. There is only one circulating system, that is, only one heart, and one set of respiratory organs; both occupying the superior thorax, which indeed appears to be perfectly formed; the other thorax is completely wanting. An enormous liver covers the whole of the intestinal mass, and appears through a pellicle or transparent membrane, between the laminæ of which a single umbilical cord passes in a serpentine course, and enters into the liver. There are therefore no anterior muscular abdominal parietes. The liver, the membranes, and the cord, have unfortunately been removed. The inferior head, such as is shown in the preparation, had a large bladder growing upon it, filled with a clot of blood; it had been removed, from an idea that it was of no importance. There is only one complete system of digesting organs on one side, while on the other are found two intestinal appendices quite anomalous in their structure, and communicating with the former; that is, the complete canal commences from the mouth of the perfect head, and is regularly continued to the anus of the right side; but when it has attained the middle of its length, the ileum gives out a branch of intestine which proceeds till it terminates in a kind of cloaca, or cavity, corresponding to the inferior head, and constituting the whole of its cavity. Two inches further, this ileum bifurcates, in order to form on each side a cæcum, each of which is continued into a colon and a rectum. The rectum on the right side opens by the only anus which is met with in this monster; the left rectum, which was prodigiously distended with meconium, terminates by an imperforate bag near the fundus of the left uterus. On opening the cloaca, it was found to contain the rudiments of a lower jaw, and of a tongue, which were immersed in the meconium with which this cavity was filled. The left uterus, on which the left rectum reposed, is fully developed, and its bulk is at least double that of the right. The organs of generation appear to be complete. An urinary bladder is found on each side. There are two kidneys, which, by their size, appear formed by the union of four kidneys. The left has two ureters, the right only one. It will appear from this description, that the cavities of the two pelves, opposed to each other, form the lateral parts of the common abdomen, and occupy its lumbar regions.

At the top of the inferior head, and a little to the right, a hole is observable, over which the bladder that had been cut off, was placed. This imperfect head presents an appearance of scalp covered with hair, and a cartilaginous body of an irregular form, which appears to be the rudiment of an external ear. The circulatory system has not been injected."

"*Geneva, August* 21*st*, 1815."

A further examination of the fetus, after its arrival in England, was instituted by Drs. Marcet, Roget, and Mr. Lawrence, and the following additional particulars ascertained:—

"The aorta, produced from the heart, was contained in the chest of the superior or more perfect child; having passed the diaphragm, it divided into three branches for the supply of the inferior or less perfect trunk, and of the two lower halves. The left of these three arteries was much the largest; it produced the iliac vessels of the left pelvis and lower limbs, and was then continued to form a large umbilical artery, the only one which this double child possessed. The right branch supplied the right pelvis and lower limbs. The middle one ran along the spine of the inferior child, and divided into two vessels, which might be called arteriæ innominatæ; for each of them produced a small carotid, running along the imperfect inferior stump of a neck, and a subclavian artery, which went to the corresponding upper limb of the inferior child. On dividing the integuments of the back, at the part where the upper and lower halves of the fetus were united crosswise, the two vertebral columns were seen to end abruptly opposite to each other, and the two pelves had the bases of their sacra turned towards each other. But there was a considerable interval between the extremities of the spines and the sacra, occupied by a firm membrane. When the latter was divided, the medulla spinalis was seen running across from one spine to the other, and distributing its branches laterally to the two lower halves; so that the two trunks had a single spinal marrow, and each of the pelves, with its two lower limbs, received its nerves from the side of this single organ."

Presented by the Medico-Chirurgical Society, July 13, 1816.

196. The circulatory, respiratory, urinary, and generative organs of a female human twin monster fetus, born in October 1827.

The following account is extracted from a letter which accompanied the preparation.

Case.—"A description of a Duplo-genesis, of which Mary, the wife of William Stockden, in the parish of Iron Acton, in the county of Gloucester, was delivered in October 1827. The woman was thirty-five years of age, and had, ten years previously, been delivered of a well-formed healthy child, still living.

"The external appearance, dimensions, &c. of the Duplo-genesis.

"It consisted of two heads thickly covered with hair; four arms with the hands perfect; two bodies united by their sides below the arms, forming one thorax with four nipples; one umbilicus, and one umbilical cord, consisting of two veins and four arteries. There was but one pelvis; and the external organs of generation, the anus, and the thighs, legs and feet, were those of a single fetus; but there was an imperfectly formed additional lower extremity arising from the sacrum, and hanging over the anus.

"The weight of the monster was eleven pounds. The extreme length from the crowns of the heads to the toes, twenty-one inches; from the root of the nose to the occiput, nine inches; from one ear to the other, over the head, eight inches and three quarters; the circumference of the head of the fetus of the right side, fourteen inches; of that of the left side, thirteen inches; of the two heads placed in juxta-position, twenty-one inches; round the four shoulders, twenty-three inches; round the body at the umbilicus, twelve inches and a half; at the pelvis, eleven inches and a half.

"Appearances on Dissection.

"The integuments being raised from the chins to the umbilicus, a large irregular sternum was exposed, common to both fetuses, and into which were inserted four clavicles, and forty-eight ribs. The sternum being elevated, a thymus gland to each fetus appeared. The pericardium or pericardia contained two hearts, the apices of which were turned towards each other. They were so placed as to occupy the smallest possible space. Each had two auricles, and two ventricles, with the ar-

teries and veins proper to them. The descending aorta of each fetus gave off one iliac artery only.

" Organs of Respiration.

" There were distinct lungs, with their usual lobes to each fetus, separated from each other by pleura, and attached to their respective tracheæ, each receiving their blood-vessels from their proper heart. There was a single thick diaphragm, perforated by additional openings for a second œsophagus, vena cava, aorta, &c.

" Organs of Digestion.

" The abdomen contained two livers, with their concave sides opposed to each other; two gall-bladders, with the proper ducts; two spleens, two pancreases, two omenta, two stomachs, two duodena, two jejuna, two ilea, all perfectly separate until within the space of about four inches from the cæcum, at which place the ilea united. The cæcum was large, and had two appendiculæ cæci vermiformes. The colon and rectum were single.

" Generative and Urinary Organs.

" There were two kidneys, with their renal capsules, having an ureter from each, leading to a separate urinary bladder; one of which was situated naturally, having a meatus opening into a vagina which led to an uterus situated between the bladder and rectum. Behind the rectum there was another bladder, and an imperfect uterus, attached by cellular substance to the intestine. The brain, nerves, and organs of loco-motion were to all appearance perfect."

Presented by David Davies, Esq. May 6th, 1828.

197. A double-bodied monster Pig, with one perfect head, and eight extremities. *Hunterian.*

198. A double-bodied monster Pig, in which the thoracic and abdominal cavities of the two bodies (which communicate with each other) are opened, exposing, in the former, the conjoined hearts. *Hunterian.*

199. A similar double-bodied monster Pig. *Hunterian.*

200. A similar specimen of a double-bodied Pig.

Presented by His Grace the Archbishop of Canterbury, Nov. 20th, 1830.

201. A double-bodied monster Pig. In this specimen there are evident rudiments of a second head, the palate being fissured longitudinally throughout its whole extent; from one side of this division a septum descends to the lower jaw, becoming attached to it, and separating it into distinct parts, each possessing a well-formed tongue and teeth. The division of the lower jaw is visible through the integuments, externally. *Hunterian.*

202. A double-bodied monster Pig, conjoined from the umbilicus upwards. The heads are, as it were, pressed together, and united laterally. They present on one side a well-formed nose and mouth, about an inch above which the extremity of a second snout is seen projecting; on the other side, where the occiputs unite, the two posterior ears are placed close together; and the two central or approximated eyes are situated on the summit of the head. *Presented by J. Winterbottom, Esq.* 1831.

203. A double-bodied fetal Puppy, with a single head. It has four posterior, but only two anterior extremities. *Hunterian.*

204. A double-bodied Kitten, the head of which appears single, but, as in some of the preceding specimens, has the palate divided by a septum, which extends to the angle of separation of the two lower jaws. *Hunterian.*

205. A similar double-bodied Kitten. *Hunterian.*

206. A similar double-bodied Kitten. The thorax and abdomen are opened, to expose their contents: the heart appears single, as does also the liver; but the rest of the abdominal viscera are duplex. The upper part of the skull has been removed to show the brain, which is single, but having two medullæ oblongatæ arising from it. *Hunterian.*

207. A double-bodied Kitten. *Hunterian.*

208. A Kitten, with four additional extremities attached to the abdomen; between the two lowest of which an anus exists, and is marked by a bristle. *Hunterian.*

209. A similar specimen of monstrosity. *Hunterian.*

210. A similar specimen of monstrosity. *Presented by Mr. Belfour.*

211. A similar specimen of monstrosity. *Hunterian.*

212. A double-bodied Kitten, with a single head. *Mus. Brit.*

213. A similar specimen of monstrosity. *Hunterian.*

214. A similar specimen of monstrosity. *Hunterian.*

215. A similar specimen of monstrosity. *Hunterian.*

216. A similar specimen of monstrosity. *Hunterian.*

217. A similar specimen of monstrosity. *Hunterian.*

218. A similar specimen of monstrosity. *Hunterian.*

219. A double-bodied fetal Rabbit (Lepus Cuniculus), with a single head, which has an additional ear growing from the occiput. *Hunterian.*

220. A double-bodied fetal Mole (Talpa Europæa), with a single head. *Hunterian.*

221. The egg of a domestic Fowl, containing two yolks. *Hunterian.*

222. A similar specimen. *Hunterian.*

223. Two yolks from a Hen's egg, connected at their axes by a small pedicle. *Hunterian.*

224. Two yolks similarly united by an elongated pedicle. *Hunterian.*

225. A singularly malformed Hen's egg, which was laid in June, 1811. It has an elongation at each extremity. The hen had previously sustained an injury of the pelvis, and died shortly afterwards. *Presented by Mr. Clift.* 1811.

226. A malformed Hen's egg, with a similar elongation from one extremity. *Presented by Sir A. Carlisle.* 1818.

227. A small Egg, that was found inclosed within another perfect egg; it is spherical in form, and covered by its proper shell. *Hunterian.*

Vegetables.

228. A double Apple (Pyrus Malus). *Hunterian.*

229. Three double Apples, from a tree growing near Romford in Essex; and which, for several years, has produced a crop of similar double fruit. *Presented by Sir A. Carlisle.* 1829.

230. A Peach (Amygdalus Persica), gathered in a hot-house at Thames-Ditton, where it was growing in the vicinity of a nectarine tree: it had on one half of its surface, while recent, a strong resemblance in character and colour to a true nectarine, but retaining on the other the appearance of a peach. *Presented by Mrs. Robinson.* 1817.

231. A double Bean (Phaseolus vulgaris). *Hunterian.*

232. A Cucumber (Cucumus sativus), with a smaller one attached to it. *Hunterian.*

233. A similar specimen: they are united throughout their whole length by a thin semi-transparent septum. *Presented by Mr. Clift.* 1829.

234. A Fern leaf (Asplenium Scolopendrium), the extremity of which is bifid, gathered at Hastings in Sussex. *Presented by Mr. Clift.* 1808.

235. A double wild Hyacinth (Hyacinthus non-scriptus), from Hampstead Heath. *Presented by Mr. Clift.* 1806.

Series IV.—Hermaphroditical Malformation.

236. A Substance, apparently a testicle, inclosed in a tunica vaginalis. This and a similar body were found situated external to the abdominal rings in the groins of what had been considered to be, during life, a perfect female. Upon examination after death, the uterus and appendages were found to be deficient; the bladder and rectum being in contact. The external organs appeared to be perfectly formed; the labia and nymphæ were natural; the clitoris, however, was preternaturally enlarged, being two inches in length, and three quarters of an inch in diameter. The vagina terminated in a cul-de-sac at about three inches from the vulva. *Presented by Sir A. Carlisle.* 1827.

237. A Substance in the place of a testicle of a ridgil horse. It is suspended by the cremaster muscle and vas deferens, the latter of which is obliterated at that extremity where the testicle should have been. *Hunterian.*

238. The organs of a Free Martin, or Hermaphrodite Cow. The parts exhibited

in the preparation are the following:—The clitoris, with its crura; the urethra and bladder; the body and horns of the uterus, which are impervious; the ovaria, one deprived of, the other inclosed in, its capsule; the interrupted parts of the vasa deferentia, with the spermatic vessels; the gubernaculum and beginning of the tunica vaginalis communis, into which is introduced a bristle, to show that it is hollow; the two ureters, and the vesiculæ seminales. *Hunterian.*

"This animal was between three and four years old when killed, and had never been observed to show any signs of desire for the male, although it went constantly with one, and looked more like a heifer than the free martins usually do.

"The teats and udder were small, compared with those of a heifer, but rather larger than in some of the other examples. The beginning of the vagina was similar to that of the cow, but soon terminated a little beyond the opening of the urethra. The vagina and uterus, to external appearance, were continued, although not pervious; and the uterine part divided into two horns, at the end of which were the ovaria.

"I could not observe in this animal any other body which I could suppose to be the testicle.

"There was on the side of the uterus an interrupted vas deferens, broken off in several places.

"Behind the bladder, or between that and the vagina, were the bags called vesiculæ seminales, between which were the terminations of the two vasa deferentia.

"The ducts of the bags and the vasa deferentia opened together. This could not be called an exact mixture of all the parts of both sexes, for here was no appearance of testicles. The female parts were imperfect, and there was the addition of part of the vasa deferentia, and the bags called vesiculæ seminales. This circumstance of having no testicles, perhaps, was the reason why it had more the external appearance of a heifer than what they commonly have."—See Hunter on the Animal Œconomy, "Mr. Wells's Free Martin," p. 64, plate xi., also *Museum Drawings.*

239. The organs of generation of a Free Martin, which belonged to Charles Palmer, Esq., of Luckley in Berkshire.—See Hunter on the Animal Œconomy, p. 60. *Hunterian.*

240. The organs of generation of a Free Martin, showing the labia and the glans clitoridis; the inner surface of the common vagina, with the orifices of the ducts of two glands opening into it; the vagina, terminating in a blind end; the impervious uterus and horns; the testicles, the spermatic vessels, the cremaster muscles, and the vesiculæ seminales and their ducts, into which bristles are introduced. *Hunterian.*

" Mr. Wright's Free Martin, five years old.

" This animal had more the appearance and general character of the ox, or spayed heifer, than of either the bull or cow. The vagina terminated in a blind end a little beyond the opening of the urethra, from which the vagina and uterus were impervious. The uterus, at its extreme part, divided into two horns. At the termination of the horns were placed the testicles instead of the ovaria, as is the case in the female. The reasons why I call these bodies testicles are the following:—First, they are above twenty times larger than the ovaria of the cow, and nearly the size of the testicles of the bull; or rather those of the ridgil, the bull whose testicles never come down. Secondly, the spermatic arteries were similar to those of the bull, especially of the ridgil. Thirdly, the cremaster muscle passed up from the rings of the abdominal muscles to the testicles, as it does in the ridgil. Although I call these bodies testicles, for the reasons given, yet they were only imitations of them; for when cut into, they had nothing of the structure of the testicle: not being similar to any thing in nature, they had more the appearance of disease. From the seeming imperfection of the animal itself, it was not to be supposed that they should be testicles, for then the animal should have partaken of the bull, which it certainly did not. There were the two vesiculæ seminales placed behind, between the bladder and the uterus: their ducts opened into the vagina, a very little way beyond the opening of the urethra; but there was nothing similar to the vasa deferentia.

" As the external parts had more of the cow than the bull, the clitoris,

which may be reckoned an external part, was also similar to that of the cow; not at all in a middle state between the penis of the bull and the clitoris of the cow, as I have described in the hermaphrodite horse. There were four teats; the glandular part of the udder was but small.

" This animal cannot be said to have been a mixture of all the parts of both sexes, for the clitoris had nothing similar to the penis in the male, and it was deficient in the female parts, by having nothing similar to ovaria; neither had the uterus a cavity."—See Hunter on the Animal Œconomy, p. 62, pl. viii. x., also *Museum Drawings.*

241. The organs of generation of a Free Martin, showing the labia and glans clitoridis, the vagina and ducts opening in it, the meatus urinarius and the vagina becoming contracted, and terminating in the uterus, the horns of which are only pervious a little way, the right testicle and vas deferens, and ovary deprived of its capsule; the opening of the ducts of the vesiculæ seminales, and vasa deferentia are marked by bristles.

Hunterian.

" Mr. Arbuthnot's Free Martin.

" The external parts were rather smaller than in the cow. The vagina passed on, as in the cow, to the opening of the urethra, and then it began to contract into a small canal, which passed on to the division of the uterus into the two horns; each horn passing along the edge of the broad ligament laterally towards the ovaria.

" At the termination of these horns were placed both the ovaria and the testicles; they were nearly of the same size, and about as large as a small nutmeg. To the ovaria I could not find any Fallopian tube. To the testicles were vasa deferentia, but they were imperfect. The left one did not reach near to the testicle; the right only came close to it, but did not terminate in the epididymis. They were both pervious, and opened into the vagina near the opening of the urethra.

" On the posterior surface of the bladder, or between the uterus and bladder, were the two bags, called vesiculæ seminales in the male, but much smaller than they are in the bull; the ducts opened along with the vasa deferentia. This was more entitled to the name of hermaphrodite than Mr. Wright's or Mr. Wells's Free Martin; for it had a mixture of

all the parts, though all were imperfect."—See Hunter on the Animal Œconomy, p. 63, pl. ix., also *Museum Drawings*.

242. The external and internal organs of generation of a Free Martin. Mr. Lock's. See *Museum Drawings*. *Hunterian.*

243. The testicles of a " monstrous Bull from Cornwall"; they are seen imbedded in a mass of fat above the teats, which are well formed, and four in number. There is no other record of this preparation. *Hunterian.*

244. The external organs of generation of the same animal: a quill indicates the urethra; the clitoris is seen, in its retracted state, at the posterior part of the preparation. *Hunterian.*

245. A lateral view of the contents of the pelvis of an hermaphrodite Calf or Free Martin. *Hunterian.*

246. The right ovarium of a Cow, supposed to have been a Free Martin, that was in the possession of Sir Robert Wigram at Walthamstow, in Essex. It had always, during life, shown a disposition for, and had taken the bull, but did never breed. On dissection, however, the female organs appeared to be naturally formed. The ovary is cut open.

Presented by Sir William Blizard. 1804.

247. The left ovarium of the same animal, also in section.

Presented by Sir William Blizard.

248. The testicle of a Free Martin. *Hunterian.*

249. The organs of generation of a perfect Cow-calf, that was a twin with a perfect Bull-calf.

In describing this specimen, Mr. Hunter says,—

" Although what I have advanced with respect to the production of Free Martins be in general true, yet by the assistance of Benjamin Way, Esq., of Denham, near Uxbridge, who knew my anxiety to ascertain this point, I was lately furnished with an instance which proves that it does not invariably hold good. One of his cows having produced twins, which were to appearance male and female, upon a supposition that the cow-calf was a Free Martin, he obligingly offered either to give it me, or keep

it till it grew up, that we might determine the fact. As I conceived it to be a Free Martin, and was to have the liberty of examining it after death, I desired that he would keep it; but unfortunately it died at about a month old. Upon examining the organs of generation, they appeared to be those of the female, and perfectly formed; but to make this more certain, I procured those of a common cow-calf, and comparing them together, found them exactly alike." *Hunterian.*

See Hunter on the Animal Œconomy, p. 60.

250. The external organs of generation of a hermaphrodite Ass (Equus Asinus), showing the clitoris and its prepuce, and the groove of the urethra.—The following is a notice of this preparation, from the Animal Œconomy, p. 58.

"I procured a foal-ass, and killed it to examine the parts. It had two nipples, but the testicles were not come down; owing, perhaps, to the animal's being yet too young.

"There was no penis, passing round the pubis, to the belly, as in the perfect male ass.

"The external female parts were similar to those of the she-ass. Within the entrance of the vagina was placed the clitoris, but much longer than that of a true female, it measuring about five inches. The vagina was pervious a little beyond the opening of the urethra into it, and from thence up to the fundus of the uterus there was no canal.

"The uterus was hollow at the fundus, or had a cavity in it, and then divided into two horns, which were also pervious. Beyond the termination of the two horns were placed the ovaria, as in the true female; but I could not find the Fallopian tubes. From the broad ligaments, to the edges of which the horns of the uterus, and ovaria, are attached, there passed towards each groin a part similar to the round ligaments in the female, which were continued into the rings of the abdominal muscles; but with this difference, that there accompanied them a process or theca of the peritoneum, similar to the tunica vaginalis communis in the male ass; and in these thecæ were found the testicles; but I could not discover any vasa deferentia passing from them."—See *Museum Drawings.*

Hunterian.

251. The external organs of generation of a female Monkey, showing a preter natural enlargement of the clitoris. *Hunterian.*

252. A similarly enlarged clitoris from a female black Monkey; the uterus and ovaria are preserved, but the horns of the uterus are cut away. *Hunterian.*

253. A partial section of the contents of the pelvis of a hermaphrodite Sheep from the West Indies, which had been considered as an ewe, from the circumstance of its voiding its urine backwards, in a similar manner to the female.

The parts shown in the preparation are; one of the nipples, the clitoris, which is much longer and more projecting than in the perfect ewe, the vagina, the bladder, the uterus and its horns, the testicle, epididymis, tunica vaginalis, &c.—See *Museum Drawings.*

254. The urinary and generative organs of a hermaphrodite Sheep. *Hunterian.*

255. The testicles of a hermaphrodite Dog, which were situated internally in the place of the ovaria, distinguished, however, to be testicles by the convolutions of the spermatic artery. From each of these passed down an impervious cord, or vas deferens, not thicker than a thread, to the posterior part of the bladder, where they united into one substance, which was nearly two inches long, and terminated behind the meatus urinarius. —See Philos. Trans. vol. lxxxix. p. 157. tab. iv. f. 1. 2.

Presented by Sir E. Home, Bart. 1802.

256. The clitoris of the same Dog. It is three quarters of an inch long, and half an inch in diameter; the orifice of the meatus urinarius is unusually large, as if intended as a common passage to the bladder and vagina; so that the only visible external parts are, the clitoris, meatus urinarius, and rectum. The animal had not the slightest appearance of nipples on the skin of the belly, so that in that respect it differed both from the male and female, nor was there the existence of any structure like the mammary gland beneath the skin.

Presented by Sir E. Home, Bart. 1802.

257. The external organs of an aged Dog, unusually formed. *Hunterian.*

258. The body of a hen-Pheasant (Phasianus Colchicus), which had assumed the plumage of the male. This specimen was preserved to show the state of the oviduct, in birds which had thus changed their sexual characters externally.

Mr. Hunter in his "Observations on the Animal Œconomy," p. 78, when describing this peculiar change, says,—

> "Dr. Pitcairn having received a pheasant of this kind from Sir Thomas Harris, showed it as a curiosity to Sir Joseph Banks, and Dr. Solander. I, happening to be then present, was desired to examine the bird, and the following was the result of my examination. I found the parts of generation to be truly female; they being as perfect as in any hen-pheasant that is not in the least prepared for laying eggs, and having both the ova and oviduct. As the observations hitherto made have been principally upon birds found wild, little of their history can be known; but from what took place in a pheasant, in the possession of a friend of Sir Joseph Banks's, it appears probable that this change of character takes place at an advanced period of the animal's life, and does not grow up with it from the beginning. This lady, who had for some time bred pheasants, and paid particular attention to them, observed that one of the hens, after having produced several broods, moulted; when the succeeding feathers were those of a cock; and that this animal was never afterwards impregnated. Hence it is most probable, that all the hen-pheasants found wild, having the feathers of a cock, were formerly perfect hens, but have been changed by age, or perhaps by *certain constitutional circumstances*."—See *Museum Drawings*.

259. The male and female organs united; from the body of a hermaphrodite or androgynal Cod-fish (Gadus morhua).

Presented by Sir E. Home, Bart. 1802.

260. Similarly conjoined sexual organs, with the abdominal viscera injected, of an androgynal Cod-fish. *Presented by Sir A. Carlisle.* 1821.

261. A similar specimen, from an androgynal Cod-fish, injected.

Presented by William Lynn, Esq. 1825.

262. A similar specimen of large size, from an androgynal Cod-fish, injected.
Presented by J. G. Children, Esq. 1829.

263. A similar specimen, probably from a small Cod-fish. *Mus. Brit.*

PREPARATIONS IN A DRIED STATE.

Series I. Addition of Parts.

Sub-series 1. *Head.*

264. Two skulls united by their vertices, of a double-headed male Child, born in May 1783, at Mungulhaut, in the province of Burdwan, in Bengal; and which was more than four years old at the time of its death, which was occasioned by the bite of a Cobra de Capello.

The following history of this remarkable case is extracted from the Philos. Trans. vol. lxxx. p. 296.

" An account of a Child with a double head. In a letter from Everard Home, Esq. F.R.S. to John Hunter, Esq. F.R.S. Read March 25, 1790.

" Dear Sir,—I feel a particular satisfaction in having been enabled, through the kind attention of my friend Captain Buchanan, to add to your invaluable collection the very uncommon double skull of a monstrous child, born in the East Indies, which attracted the attention of all the curious in Calcutta, where it was shown alive; and, should the account of it appear to you of sufficient importance, I shall request that you will do me the honour of laying it before the Royal Society."——" The following account of the child, when six months old, I was favoured with from Sir Joseph Banks; who, from the hand-writing, and other circumstances, believes that it was written by the late Colonel Pierce. I have, however, been less solicitous to ascertain the author, as the observations contained in this account agree so entirely with the remarks that were afterwards made, and with the appearances of the skull, that they require no name being

annexed to them, in confirmation of their having been made with accuracy and fidelity.

" The child was born in May 1783, of poor parents; the mother was thirty years old, and named Nooki; the father was called Hannai, a farmer at Mungulhaut, near Burdwan, in Bengal, and aged thirty-five.

" At the time of the child's birth, the woman who acted as widwife, terrified at the strange appearance of the double head, endeavoured to destroy the infant by throwing it upon the fire, where it lay a sufficient time before it was removed, to have one of the eyes and ears considerably burnt.

" The body of the child was naturally formed, but the head appeared double, there being, besides the proper head of the child, another of the same size, and to appearance almost equally perfect, attached to its upper part. This upper head was inverted, so that they seemed to be two separate heads, united together by a firm adhesion between their crowns, but without any indentation at their union, there being a smooth continued surface from one to the other.

" The face of the upper head was not over that of the lower, but had an oblique position, the centre of it being immediately above the right eye.

" When the child was six months old, both of the heads were covered with black hair, in nearly the same quantity. At this period the skulls seemed to have been completely ossified, except a small space between the ossa frontis of the upper one, like a fontinelle.

" Observations on the Superior or Inverted Head.

" No pulsation could be felt in the situation of the temporal arteries; but the superficial veins were very evident.

" The neck was about two inches long, and the upper part of it terminated in a rounded soft tumour, like a small peach.

" One of the eyes had been considerably hurt by the fire, but the other appeared perfect, having its full quantity of motion; but the eye-lids were not thrown into action by any thing suddenly approaching the eye; nor was the iris at those times the least affected; but, when suddenly exposed to a strong light, it contracted, although not so much as it

usually does. The eyes did not correspond in their motions with those of the lower head, but appeared often to be open when the child was asleep, and shut when it was awake.

" The external ears were very imperfect, being only loose folds of skin, and one of them mutilated by having been burnt. There did not appear to be any passage leading into the bone which contains the organ of hearing.

" The lower jaw was rather smaller than it naturally should be, but was capable of motion. The tongue was small, flat, and adhered firmly to the lower jaw, except for about half an inch at the tip, which was loose. The gums in both jaws had the natural appearance; but no teeth were to be seen either in this head or the other.

" The internal surface of the nose and mouth were lubricated by the natural secretions, a considerable quantity of mucus and saliva being occasionally discharged from them.

" The muscles of the face were evidently possessed of powers of action, and the whole head had a good deal of sensibility, since violence to the skin produced the distortion expressive of crying, and thrusting the finger into the mouth made it show strong marks of pain. When the mother's nipple was applied to the mouth, the lips attempted to suck.

" The natural head had nothing uncommon in its appearance; the eyes were attentive to objects, and its mouth sucked the breast vigorously. Its body was emaciated.

" The parents of the child were poor, and carried it about the streets of Calcutta as a curiosity to be seen for money; and to prevent its being exposed to the populace they kept it constantly covered up, which was considered as the cause of its being emaciated and unhealthy.

" Mr. Stark, who resided in Bengal during this period, paid particular attention to the appearances of the different parts of the double head, and endeavoured to ascertain the mode in which the two skulls were united, as well as to discover the sympathies which existed between the two brains. Upon his return to England, finding that I was in possession of the skull, and proposed drawing up an account of the child, he very obligingly favoured me with the following particulars:—

" At the time Mr. Stark saw the child, it must have been nearly two two years old*, (the dentes molares, or double teeth, which usually appear at twenty months or two years of age, were through the gum; and there was no reason to expect them very early in this child,) and was some months before its death, which I have every reason to believe happened in the year 1785. At this period the appearances differed in many respects from those taken notice of when only six months old.

" The burnt ear had so much recovered itself as only to have lost about one-fourth part of the loose and pendulous flap. The openings leading from the external ear appeared as distinct as in those of the other head. The skin surrounding the injured eye, which was on the same side with the mutilated ear, was in a slight degree affected, and the external canthus much contracted, but the eye itself was perfect.

" The eye-lids of the superior head were never completely shut, remaining a little open, even when the child was asleep, and the eye-balls moved at random. When the child was roused, the eyes of both heads moved at the same time; but those of the superior head did not appear to be directed to the same object, but wandered in different directions. The tears flowed from the eyes of the superior head almost constantly, but never from the eyes of the other, except when crying. The termination of the upper neck was very irregular, a good deal resembling the cicatrix of an old sore.

" The superior head seemed to sympathise with the child in most of its natural actions. When the child cried, the features of this head were affected in a similar manner, and the tears flowed plentifully. When it sucked the mother, satisfaction was expressed by the mouth of the superior head, and the saliva flowed more copiously than at any other time; for it always flowed a little from it. When the child smiled, the features of the superior head sympathised in that action. When the skin of the superior head was pinched, the child seemed to feel little or no pain, at least not in the same proportion as was felt from a similar violence being committed on its own head or body.

* See the note at the end of the Case.

"When the child was about two years old*, and in perfect health, the mother went out to fetch some water; and, upon her return, found it dead, from the bite of a *Cobra de Capello*. The parents at this time lived upon the grounds of Mr. Dent, the Honourable East India Company's agent for salt at Tumloch, and the body was buried near the banks of the Boopuorain river. It was afterwards dug up by Mr. Dent and his European servant, the religious prejudices of the parents not allowing them to dispense with its being interred.

"The two skulls which compose this monstrous head appear to be nearly of the same size, and equally complete in their ossification, except a small space at the upper edge of the ossa frontis of the superior skull, similar to a fontinelle. The mode in which the two are united is curious, as no portion of bone is either added or diminished for that purpose; but the frontal and parietal bones of each skull, instead of being bent inwards, so as to form the top of the head, are continued on; and, from the oblique position of the two heads, the bones of the one pass a little way into the natural sutures of the other, forming a zig-zag line, or circular suture uniting them together.

"The two skulls appear to be almost equally perfect at their union; but the superior skull, as it recedes from the other, is becoming more imperfect and deficient in many of its parts.

"The meatus auditorius in the temporal bone is altogether wanting.

"The basis of the skull is imperfect in several respects, particularly in such parts as are to connect the skull with a body. The foramen magnum occipitale is a small irregular hole, very insufficient to give passage to a medulla spinalis; round its margin are no condyles with articulating surfaces, as there were no vertebræ of the neck to be attached to it. The foramen lacerum in basi cranii is only to be seen on one side, and even there too small for the jugular vein to have passed through.

"The ossa palati are deficient at their posterior part; the lower jaw is too small for the upper, and the condyle and coronoid process of one side are wholly wanting.

* See the note at the end of the Case.

"In most of the other respects the skulls are alike; the number of teeth in both is the same, and is sixteen.

"From an examination of the internal structure of the double skull, the two brains have certainly been inclosed in one bony case, there being no septum of bone between them. How far they were entirely distinct, and surrounded by their proper membranes, cannot now be ascertained; but from the sympathies which were taken notice of by Mr. Stark between the two heads, more particularly those of the superior with the lower, or more perfect, I should be inclined to believe, that there was a more intimate connection between them than simply by means of nerves, and therefore that the substance of the brains was continued into one another.

"Had the child lived to a more advanced age, and given men of observation opportunities of attending to the effects of this double brain, its influence upon the intellectual principle must have afforded a curious and useful source of enquiry; but unfortunately the child only lived long enough to complete the ossification of the skull, so as to retain its shape; by which means we have been enabled to ascertain and register the fact, without having enjoyed the satisfaction that would have resulted from an examination of the brain itself, and a more mature investigation of the effects it would have produced.

"*May 22nd*, 1790."

Note.—The following further particulars were communicated to Sir E. Home by Mr. Dent upon his return to England.

"Its father told Mr. Dent that it was more than *four years* old at the time of its death.

"The mother, who was thirty years of age, had three children, all naturally formed; and her fourth child was the subject of the present description. Mr. Dent endeavoured to discover whether any imaginary cause had been assigned by the parents for the unnatural formation of the child; but the mother declared that no circumstance whatever of an uncommon nature had occurred: she had no fright, met with no accident, and went through the period of her pregnancy exactly in the same way as she had done with her other children.

"The body of the child was uncommonly thin, appearing emaciated from want of due nourishment.

"The neck of the superior head was about four inches long; and the upper part of it terminated in a hard, round, gristly tumour, nearly four inches in diameter.

"The front teeth had cut the gums in the upper and under jaws of both heads.

"When the child cried, the features of the superior head were not always affected; and when it smiled, the features of the superior head did not sympathise in that action.

"In preparing the skull, which operation Mr. Dent was obliged, from the prejudices of his servants, to superintend, he found that the dura mater belonging to each brain was continued across at the part where the two skulls joined, so that each brain was invested in the usual way by its own proper coverings; but the dura mater, which covered the cerebrum of the upper brain, adhered firmly to the dura mater of the lower brain; the two brains were therefore separate and distinct, having a complete partition between them, formed by an union of the duræ matres.

"When the contents of the double skull were taken out, and this union of the duræ matres more particularly examined, a number of large arteries and veins were seen passing through it, making a free communication between the blood-vessels of the two brains. This is a fact of considerable importance, as it explains the mode in which the upper brain received its nourishment.

"Before these observations were communicated by Mr. Dent, it was natural to suppose that the two brains had been united into one mass; as it was difficult to imagine in what way the upper brain could be supplied with blood."

"*December* 13*th*, 1798." See *Museum Drawings*.

265. A double human incisor Tooth. *Hunterian.*

266. Two tusks from one side of the upper jaw of a young Elephant (Elephas Indicus). They are closely united together throughout their whole length,

their cavities which contained the vascular pulps communicate with each other laterally. *Hunterian.*

267. The united skulls of a double-headed Calf. The junction is by the occipital bones, which form a single foramen magnum, to which the atlas has been left attached. *Hunterian.*

See No. 20, Monsters in Spirit, for the united cerebella of these skulls.

268. Two heads of a fetal monstrous Lamb. They are united by their occiputs, and terminate in one neck. *Hunterian.*

269. The head of a Lamb at the birth. On the right side of the neck, in the space between the angle of the jaw and the meatus auditorius externus, two well-formed incisor teeth project behind a small flap of integument. On the opposite side of the neck, occupying nearly the same relative position, a single incisor tooth projects in a similar manner. *Hunterian.*

270. The ear of a Sheep, having a horny excrescence an inch and three-quarters in length, growing from its external surface.

Presented by Sir E. Home, Bart.

271. The head of a Cow, with an additional horn growing from the centre of the forehead, immediately between the eyes. It arises by a broad base, and forms an elevated crest, extending forwards as far as the extremity of the nose; it is hollow or concave upon its inferior surface, and is composed of a loose fibrous structure. The diameter of the horn at its widest part is nine inches and a quarter. *Hunterian.*

272. A supernumerary horn from a Cow. *Hunterian.*

273. A double horn from a Goat (Capra Hircus). *Hunterian.*

274. The head of a Bird of the accipitrine order, with an additional and well-formed mandible, arising at a short distance anterior to the eyes, and its apex extending to the external apertures of the nares in the true beak. (Marked "Dincheera.") *Hunterian.*

Sub-series 2. *Trunk and Extremities.*

275. A human Sternum, having the cartilages of *eight* ribs separately attached to it on each side. *Hunterian.*

276. A human fourth true Rib of the left side: it is bifid for the extent of two inches and a half at its sternal extremity, the cartilages of which unite, and have but a single attachment to the sternum. *Hunterian.*

277. Some of the metacarpal bones and phalanges of a distorted human Hand. (Imperfect.) *Hunterian.*

278. Bones of a distorted human Hand. (Imperfect.) *Hunterian.*

279. The bones of the pelvis and legs of a Monkey, which had the rudiments of a third inferior extremity existing on the left side. There is a partial division of that side of the pelvis into an imperfectly developed additional acetabulum, ischium, and foramen innominatum; the ilium, however, is not affected by the duplex state of the other bones. As regards the extremity, the femora are united into one broad bone, with slight indications of a secondary head and great trochanter at its proximal extremity; there are two fibulæ, both of which are placed on the outer side of the tibia, which is single, and to the head of which the intermediate bone, which is much smaller than natural, is attached by ligament; all three bones articulate with one astragalus; the extremity terminates in a double foot, of which the additional one is composed of four toes. *Hunterian.*

280. The sternum of a Sheep, distorted in shape, and irregular in the number of pieces into which it is divided, having seven instead of the usual number of six. The third bone which composes it, gives attachment to three ribs. *Hunterian.*

281. The pelvis and bones of the posterior legs of a Sheep, with an additional extremity growing from the pubis, the bones of which are separated to a considerable distance from each other, and the intermediate space occupied by the rudiment of a second pelvis, in form somewhat resembling a sacrum, and, to the base of which, is attached an imperfectly developed femur and distorted tibia: from this point forwards, the bones composing the tarsus, metatarsus, and phalanges are duplex; the bones of the first are anchylosed in one mass, but their division is distinctly marked by the two calces. *Hunterian.*

282. The anterior part of the skeleton of the trunk of a young Cow, with a

considerable distortion of the spine, at that point, where, connected with the upper part of the left scapula, and anchylosed with the fourth rib of the same side, there is an irregular mass of bone, apparently formed by the conjunction of two additional scapulæ, though but little resembling those bones, except by the attachment afforded to a supernumerary leg, composed of an imperfectly formed humerus, ulna, and radius, all of which are united firmly together by anchyloses. To the extremity of the radius a carpal and metacarpal bone are attached, to which, phalanges, both ill-formed and deficient in number, are connected; a metacarpal bone with two phalanges are attached to the corresponding end of the ulna. *Hunterian.*

283. A monstrous and supernumerary extremity which grew from the shoulder of a Cow. It possesses two separate and imperfectly formed hoofs, which terminate in a point. *Hunterian.*

284. A horn, thirty-seven inches in length, and ten inches and a half at its greatest circumference, which grew from the groin of a Sheep.—See No. 39, Monsters in Spirit. *Hunterian.*

285. A double foot of a monstrous Pig (Sus domesticus). *Hunterian.*

286. The right fore-foot of a Pig, with an additional or supernumerary foot attached to the carpus. *Presented by Sir Wm. Blizard.* 1813.

287. The foot of a Pig, with an additional posterior toe. *Hunterian.*

288. A Lark (Alauda arvensis), with an imperfect supernumerary leg growing from the pelvis. *Presented by Lord Bagot.* 1818.

289. The foot of a Fowl (Phasianus Gallus), with a supernumerary toe attached to it. At the extremity of the middle or longest toe, also, there is an additional talon growing from it at a right-angle. *Hunterian.*

Sub-series 3. *Organs of Circulation.*

290. A human adult Heart, injected, showing an irregularity in the mode of origin of the right carotid and subclavian arteries, which arise from the arch of the aorta by separate trunks. *Hunterian.*

291. The heart of a Child, injected, with some of the dorsal and the cervical

vertebræ attached, showing an irregularity in the mode of origin of the vertebral artery of the left side; it arises by a separate trunk from the arch of the aorta between the left carotid and subclavian arteries.

Presented by Sir William Blizard.

Sub-series 4. *Organs of Digestion.*

292. The stomachs and united intestines of a human female twin monster Fetus. The small intestines unite at about the distance of four inches from the cæcum, which is of large size, and has two appendiculæ vermiformes cæci. The colon and rectum are single.

Presented by David Davies, Esq. 1828.

The duplex circulating, respiratory, urinary, and sexual organs, are at No. 196, Preparations of Monsters in Spirit.

293. A Diverticulum from the human small intestines; probably from the intestinum ileum, which is the intestine in which this most frequently occurs, according to Mr. Hunter's observation.

Presented by Wm. Pretty, Esq. 1820.

294. A similar specimen of Diverticulum, from the human small intestines.

Presented by Wm. Pretty, Esq. 1820.

295. A Diverticulum, from the human small intestines. *Hunterian.*

296. A Diverticulum, from the human small intestines. *Hunterian.*

297. A similar specimen.—Human. *Hunterian.*

298. A similar specimen.—Human. *Hunterian.*

Sub-series 5. *Urinary Organs.*

299. A human Kidney, with double ureters. *Hunterian.*

300. A similar specimen. *Hunterian.*

301. A double urinary Bladder, from an Antelope. *Hunterian.*

Series II. Deficiency of Parts.

Sub-series 1. *Head.*

302. The skull of a fetal monstrous and apparently hydrocephalous Lamb; with the pelvis and some of the bones of the extremities.

The skull terminates in an abrupt manner, at the distance of about two inches anterior to the orbits, by two widely separated superior maxillæ, and presents a singularly distorted and defective appearance: the cavity of the antrum of either side is increased to an extraordinary size, particularly the right, which is scarcely inferior to the cranial cavity itself. The palatal space formed by the separation of the superior maxillæ is occupied by two irregular masses of bone of a spongy texture, which become exceedingly thin towards their posterior part, and resemble exposed turbinated bones. There is an imperfect septum between the nares, which open externally in the situation usually occupied by the roots of the nasal bones. By this want of projection of the skull, when viewed in profile, it bears a marked resemblance to that of the elephant.

The bones of the legs are exceedingly short, but not otherwise malformed. *Hunterian.*

303. The skull of a fetal monoculous Lamb. *Mus. Brookes.*

304. The head of a calf of the Red-deer (Cervus Dama), at the birth. A white variety, the lower jaw of which is preternaturally short.

The following is an extract from a letter by the Earl of Egremont, which accompanied the specimen:

"I now add a short statement of the facts which induced Mr. André and myself to preserve this specimen of a sort of regularity in the irregularities of nature. There was at Petworth, besides the present park, another very extensive park in a wild forest state, and stocked with a large herd of red deer, which I destroyed not many years ago, and the land is now in cultivation. It frequently happened that a calf was born milk-white; I believe upon the average of years it was about one a year from forty or fifty hinds. These white calves appeared to be perfectly

strong and healthy at their birth, but never lived beyond the first or second day; and as I had heard of the same thing in other parks where red deer were kept, it excited my curiosity, and I made enquiries upon the subject. My park-keeper told me that he had attended to this circumstance of the white calves, and that if we would examine all that were born we should find in them all the same defect, which is very visible in the specimen which I have sent,—the shortness of the under jaw, by which they are prevented from compressing the udder of the hind to extract the milk, and of course die from want of nutriment. We examined several, and found them all as his observation had predicted. Mr. André dissected some, and he told me that all their organs were perfect, except this defect in the under jaw; and it was in consequence of these facts that we determined upon preserving the specimen which I am very happy to be allowed to place in hands, where, if it has any thing to interest the naturalist, it will be much better than in mine."

" *Petworth, Nov. 10th,* 1808."

305. The skull of a Calf, in which there is a deficiency of palate, and a considerable shortening and distortion of the lower jaw, by which the incisor teeth are brought in contact with the molares of the upper jaw; the right superior maxillary bone also projects outwards in an unnatural manner.

Hunterian.

Sub-series 2. *Trunk and Extremities.*

306. The skeleton of a human Fetus at about the seventh month of gestation, with total deficiency of the right arm; the left is but a rudimental member, scarcely three inches in length, and composed of five joints or portions of bone united together by cartilage.

Presented by Sir William Blizard. 1811.

307. A human Sternum, to which the first and second ribs on the left side are attached by a single cartilage. *Hunterian.*

308. The vertebræ of the tail of a Malay or Madagascar Cat (Felis Catus, var.), having the extremity considerably distorted. The deficiency in length, and the distortion of the tail, do not appear to be the result of a casual

imperfection in its development, but forms one of the constant and specific characters in this animal. *Presented by George Bennett, Esq.* 1831.

309. A similar specimen. *Presented by George Bennett, Esq.* 1831.

310. The spine and ribs of a fetal Calf, having but ten sterno-costal cartilages existing on the right side, in consequence of the ninth and tenth, and also the eleventh, twelfth, and thirteenth ribs of that side being connate, at the distance of about an inch from their articulation with the spine, and forming but two abdominal extremities. *Hunterian.*

311. The skeleton of a Pigeon, hatched with only one leg; that of the left side, with the acetabulum, are totally deficient. The bird was shot at Berkeley in Gloucestershire. *Presented by the late Dr. Jenner.* 1802.

Sub-series 3. *Organs of Digestion.*

312. The hepatic and cystic ducts of a Child, in which the gall-bladder was deficient: the cystic duct is convoluted in a spiral form. *Hunterian.*

Sub-series 4. *Urinary Organs.*

313. A portion of a human aorta and vena cava, showing a deficiency of the renal vessels and kidney on the right side. The bladder, in which the single ureter of the left kidney terminates, is left attached. *Hunterian.*

314. A horse-shoe Kidney, from an adult human subject. *Hunterian.*

Sub-series 5. *Deficiency with Addition.*

315. An acephalous fetal Duck (Anas Boschas), with an additional pair of legs and wings; the upper mandible is also very defective. *Hunterian.*

Sub-series 6. *Deficiency with Union.*

316. Twin fetal Lambs united, the junction extending to the umbilicus. One of the conjoined heads is a perfect cyclops; the other head is more perfect, having two orbits; but in both there is considerable malformation, and deficiency of parts in the upper jaw. *Hunterian.*

Series III. Hermaphroditical Varieties.

317. The penis and urinary bladder of a hermaphrodite Ass. *Hunterian.*

318. The head and neck of a Hen-pheasant, which has assumed the male plumage. See Hunter, Philos. Trans. vol. lxx. p. 532. *Hunterian.*

In a paper in the Philosophical Transactions for the year 1827, p. 268, intitled "On the Change in the Plumage of some Hen-pheasants," by William Yarrell, Esq. F.L.S., read May 10th, 1827,—after citing the opinions of several authors, that this change was consequent upon the advanced age of the bird, he says, "Chance, rather than design, having supplied me with many opportunities of observation, both on pheasants and the common domestic fowl, I am induced to notice the internal peculiarities that have been observed invariably to accompany this change of feather, and such other circumstances as appear connected with this subject, some of which I think will be found new and interesting."—"The remarks I shall have occasion to introduce, will be found somewhat at variance with the opinions of the writers referred to, who appear to consider that age is absolutely necessary to produce this change: I shall be able to show, that certain constitutional circumstances* producing this change, may, and do, occur at any period during the life of the fowl, and that they can be produced by artificial means.

"Besides various opportunities during former seasons, I had the advantage, in the months of December and January last, of examining seven hen-pheasants, in plumage more or less resembling the male, in all of which the sexual organs were diseased, but with some variation as to extent; and the progress of change observable in the plumage bore a corresponding analogy. The ovarium was contracted in size, of a purple colour, and hard to the touch; the oviduct was also diseased throughout its whole length, and the canal obliterated at the upper part immediately preceding the funnel-shaped enlargement at the bottom of the ovarium.

* Mr. Hunter, in speaking of this change of plumage, states, that "it is most probable, that all the hen-pheasants found wild, having the feathers of a cock, were formerly perfect hens, but have been changed by age, or perhaps by *certain constitutional circumstances*"; and does not appear to attribute it to the effect of age exclusively.—See "Animal Œconomy," p. 78.

"That the obliteration of the true character of the female organs by disease, and the consequent alteration of feather, takes place at various periods, are inferred from the following circumstances.—Among the large broods of young pheasants, frequently from fifty to one hundred birds in number, which some gamekeepers are exceedingly successful in rearing by hand, produced from eggs laid by birds in confinement, nests deserted from various causes, or eggs exposed by mowing; it is by no means unusual in the months of August and September, when the young birds put forth the first plumage indicative of the sex, that one or two females are observed to produce the brightest coloured feathers of the male. These birds are then about four months old only. In two instances, among the hen-pheasants before mentioned, as shot in a wild state, some of the first plumage, usually called nest feathers, had not been shed, evidence sufficient to prove that they also were both birds of the year.

"The assumption of plumage decidedly resembling that of the male, must not, however, be confounded with accidental varieties. All variations of feathers are not caused by an alteration of the sexual organs. I have examined several birds of various species, in which those parts were perfectly healthy; but such birds are generally smaller than the natural size of the species to which they belong; and the variety of plumage in them probably originates in an imperfect secretion arising from weakness. That this disease arises at later periods during the life of the bird, but still long previous to a natural cessation of the powers of reproduction as a female, seems almost certain, from the circumstance, that in some of the preparations of the parts of the hen-pheasants examined, the globular forms of numerous ova are still apparent, but altered in colour; from which it would appear probable, that had not this disease occurred, these embryos would in due season have been matured and deposited.

"Having shown that a particular change of feather follows the destruction of the sexual organs by disease, I shall proceed to describe the effects produced upon both sexes of the common fowl, when obliteration of the same parts is effected by artificial means, that is to say, by an operation.

" The breeder of poultry, who practises the art of making capons, is apprised, by the attempts of the young bird to crow, that a sufficient enlargement of the testes has taken place to enable him to perform the operation of extraction with ease and certainty; but this act completed, the bird never crows after.

" The comb and gills do not attain a size equal to those of other males not subjected to this operation; the spurs appear, but remain short and blunt; and the long narrow feathers of the neck and lower part of the back, so characteristic in the true male, put on an appearance in this bird, intermediate between the hackled appearance in the cock, and the ordinary web of the hen.

" The operation performed on the female of the common fowl is much more simple than might be expected. It consists in making a small incision through the thin skin of the flank on the left side: the oviduct, which lies immediately within, is thus easily brought into view; and it is then only necessary to cut away a small portion of it, that the continuity of the canal may be destroyed. The ova do not afterwards enlarge, and the connection between the sexual organs and those of the voice are not less remarkable in the females than that before observed to exist in the male. She makes an imperfect attempt to imitate the crow of the cock, there is an increase in the size of the comb, and a spur or spurs shoot out, but remain short and blunt. The plumage undergoes an alteration, which is called by the breeders getting foul-feathered, becoming hackled in form and altered in colour. But a more singular point is, the peculiar shape of the lower part of the back in these birds, from the want of that enlargement of the bones, observed in all true females, by which they obtain a breadth of pelvis sufficient to allow a safe passage to the perfect egg, an object the more particularly necessary, when it is recollected that a slight fracture of its brittle shell is sufficient to prevent the development of the chick.

" Thus, males and females, becoming as it were neuter in gender by the deprivation of the sexual organs, put on a corresponding appearance, and both assume characters decidedly intermediate between the true sexes.

" Returning again to the subject of hen-pheasants that are said to exhibit the feathers of the cock, it may be stated generally, that at best it is but an approximation to the plumage of the male.

" It is probable that they do not live many years after the commencement of the change, since so few are found to arrive at any great degree of splendour. Of the many I have had opportunities of examining, none possessed either the full-sized broad scarlet patch round the eye, the fine blue zone at the end of the red feathers of the breast, or much of the bright straw-coloured mark on the scapulars and wing-coverts, one specimen alone excepted; nor have I seen a female pheasant with spurs.

" From these observations it will probably be granted that age is not necessary, but that this disease, with its consequences, may arise at any period during life; and that the changes in the external character, depending on the destruction of the sexual organs, may be effected by artificial means."

319. An old Pea-hen (Pavo cristatus), which has assumed the plumage of the male bird; the oviduct upon dissection was found to be exceedingly small and shrivelled. *Presented by the Countess Dysart.* 1818.

Casts, &c.

320. A plaster cast of the parts connected with an eversion of the Bladder, and a deficiency of the greater part of the Penis. The case (which is analogous to that of No. 136, Monsters in Spirit, which see,) is described by Dr. Baillie in Trans. Med. and Chirurg. vol. i. p. 189. " Of a remarkable Deviation from the natural Structure in the Urinary Bladder and Organs of Generation of a Male."—Jan. 18th, 1790. *Hunterian.*

321. A plaster cast of a human Double Uterus impregnated.—See No. 61, Monsters in Spirit. *Hunterian.*

322. A cast in wax of the Band uniting the bodies of the Siamese twins, who were exhibited in London in 1830.

Presented by George Buckley Bolton, Esq. 1830.

They were born in May 1811, in the kingdom of Siam, at Maklong,

a small village sixty miles distant from the capital, Bankok, and were the offspring of Chinese parents; they were named Chang and Eng. "The mother is stated by Captain Coffin (who brought the twins to England) to be about five feet seven inches in height, well formed, with large hips, and, for her country, a strong woman. She was thirty-five years of age when her twins were born, and had previously given birth to several other children, none of whom had any malformation. She declared to Captain Coffin that she suffered less during her pregnancy with these than on any similar occasion, and also, that her labour was not attended with the least difficulty. She further stated that the twins were born with the head of one between the legs of the other, and were rather small infants."

"The band of union is formed in the following manner.—At the lowest part of the sternum of each boy, the ensiform cartilage is bent upwards and forwards, meeting the other in the middle of the upper part of the band, where moveable joints exist, which admit of vertical as well as lateral motion; each junction appearing to be connected by ligamentous structures. It is difficult to define precisely where the respective cartilages from each body meet, and whether a slip from one of the cartilages of the false ribs enters into the structure of these parts; but it is certain that the ensiform cartilages have assumed an extended and altered figure. This cartilaginous portion occupies the upper region of the band. The outline of the band is convex above, and arched below. Under the cartilage, while they stand in their ordinary posture, are large hernial sacs opening into each abdomen, and into which, on coughing, congenital herniæ are forced; probably, in each boy formed by a portion of the transverse arch of the colon: generally, however, and under ordinary circumstances, these herniæ are not apparent. Whether there is a communication between the two abdominal cavities, or a distinct peritoneal sac belonging to each hernia, is by no means obvious; and this is a point of vital importance, if ever, by their mutual desire, a surgical separation should be contemplated. If, however, any such operation hereafter be strongly requested by both the youths, when arrived at years of discretion, and after they have been fully apprised of its danger, it will be

essential that some preliminary steps be taken to provide against the exposure of either or both of the abdominal cavities.

"When these herniæ protrude, their respective contents are pushed forwards as far as the middle of the band. The entire band is covered with common integument; and when the boys face each other, its length at the upper edge is one inch and three quarters, and at the lower, not quite three inches. From above downwards, it is three inches and a quarter, and its greatest thickness is one inch and five-eighths. In the centre of the lower part of this band, which presents a thin edge, formed only by skin and cellular substance, there is the cicatrix of a single navel, showing where the umbilical cords or cord had entered, and which I have no doubt contained two sets of vessels*. Small blood-vessels and nerves must of course traverse the substance of the band, but no pulsation can be detected in it.

"Captain Coffin and Mr. Hunter were informed by the mother of the twins, that soon after their birth, and during the period of infancy, this band was much larger in proportion to the size of their bodies than it is at the present time: it had then no hard cartilaginous feel at its upper margin; it was also larger in circumference, and the bodies of the twins were nearer in contact; but from continued stretching it has become elongated, and its circumference has diminished. In their own country they were employed to row a boat, for which purpose both stood at the stern, each using a one-handed oar, an exercise which must have assisted greatly in stretching the band. It is now remarkably strong, and possesses little sensibility; for they have been formerly pulled by a rope

* "It has been asserted, that 'these twins are the produce of a single ovum, and grew upon one placenta, by one umbilical cord;' but of this there does not appear to be any evidence. By permission of the Board of Curators, I have had an opportunity of examining a preparation of united female twins, now in the museum of the Royal College of Surgeons in London. The union extends from the lower part of the sternum of each twin to the navel; and there is one umbilical cord common to both. On dissection, the following appearances were observed.—The umbilical vein in its course towards the twins is divided into two nearly equal sized branches, the division taking place at about one inch and three quarters from the umbilicus; one branch passing upwards in front to the porta of the anterior liver, and the other behind to its proper liver. The number of arteries is four, two from each fœtus, which are included in the same theca with the umbilical vein as far as the body, retaining the appearance of an ordinary funis.

fastened to it, without complaining of pain, or expressing any uneasiness. In the month of February last one of them fell out of bed while asleep, and hung by the band for some time, and when both awoke, they alike stated, that they experienced no pain in the band from this accident. Mr. Hale, their constant attendant, has lifted one of them from the ground, allowing the other to hang by the band with his feet raised from the floor; yet the whole weight of one of the boys thus suspended, did not occasion pain to either, or even excite their displeasure."—The preceding extract is from a paper by G. B. Bolton, Esq., in the Philosophical Transactions for 1830, p. 177.

323. A model in clay of A-ke, a Chinese monster, born in the district of Yun-lang-yuen, about two days journey from Canton, in the year 1804.

Presented by Honoratus L. Thomas, Esq. 1822.

The following is an extract from the account of this lusus naturæ, by John Livingstone, Esq., Surgeon to the British Factory, China, December 8th, 1820.

"When I was first informed that a monster was to be seen in a temporary inclosure near St. Agostinho's church, Macao, I lost no time in attempting to gratify my curiosity; but I learned that the monster was then unwell, and had retired to rest. I then formed the resolution of having him brought to my house, for the double purpose of more deliberate observation, and having at the same time a correct model made under my own eye; but aware that the only good artist then in Macao was employed, I deferred giving my orders for a few days; in the mean time the monster unexpectedly left Macao.

"However, the modeller had made such careful observations of the subject, that he informed me he could make an exact representation of what he saw. He has succeeded so well, that I am assured by many friends who had carefully examined the original, that the model is wonderfully exact: a few unimportant exceptions shall be pointed out in the order of my description. I have spared no pains in collecting information from every quarter. I have had the advantage of receiving accounts from a great many intelligent friends, among whom I have the pleasure to mention three medical gentlemen of this place. All their accounts agree surprizingly well. The model has been shown to many of them,

and my account read, with both of which they are entirely satisfied,—so I am persuaded that my own observations could not have added much either to the value or variety of those which I have been so fortunate as to receive from others.

" A-ke was born sixteen years ago, in the district of Yun-lang-uyen, with another male child of nearly the same size united to the pit of his stomach by the neck, as if his brother had plunged its head into his breast. The skin of the principal here joins that of the upper part of the neck of the parasite, quite regularly and smoothly, excepting the superficial blood-vessels, which appear somewhat turgid. The sufferings of the mother were so great that she survived the birth of this monster only two days.

" Since that time, the parasite has not much increased in size*, and at present is not much larger than new-born infants usually are; but the bones are completely formed. The shoulder bones are remarkably prominent. Here the model is faulty, since it represents the roundness of infancy, but all this plumpness has disappeared from the original, where bones seem only to be covered with skin. The hips of the model are too prominent. The manner in which the thighs appear is quite happy, but the feet, particularly the left, are not sufficiently clubbed. In the original, generally the feet and toes are less perfect than in the model. The toes adhere, and one or two are wanting.

" The attachment of the neck of the parasite to the chest of the principal admits of a semi-rotatory motion. The natural position of the bellies is towards each other; but A-ke can turn his brother so far round, that he can bring either side towards his own belly. He also shows that his brother's arms can be moved freely. The thighs and legs remain stiffly bent, as represented in the model: the thighs being anchylosed with the ossa innominata above, and the tibiæ below. The genital organs appear

* " I have the authority of Lieut.-General Wood, for stating that a careful admeasurement of the parasite was made at his request: the trunk and neck measured about eleven inches, and the longest limb thirteen inches, making the extreme length two feet. This accords sufficiently well with the size I have mentioned; but as the modellers in China do not work by any scale, it would be useless to deduce any exact measurement of the whole figure by knowing a part."

too perfect in the model, since no vestige of testes, and very little scrotum, can be perceived in the original. The penis is however large in proportion, and the glans about half covered with the prepuce, and is subject to occasional erections, in which state a stillicidium of a mucous fluid from the urethra has sometimes appeared, and has induced a belief among the Chinese that the seminal fluid is copiously secreted. The kidneys seem to perform their functions perfectly. The anus is wanting.

" A-ke is now about four feet and ten inches high, of a feeble frame and sickly appearance; but, excepting the incumbrance above described, he is in all respects perfectly formed. * * * *

" A-ke's respiration is never perfectly free; on the contrary, it is commonly laborious, and on the slightest exertion, such as walking to a little distance, ascending a flight of steps, or the like, he breathes quickly, and with difficulty. To relieve this, he supports the parasite with his hands, but to obtain any considerable degree of ease, a recumbent posture is necessary. His pulse is commonly quick and small. Mr. Gomez felt distinctly the pulsation of the carotids in the neck of the parasite; it was feeble. He also examined carefully the pulse at the wrists; it was very slow."

There is a painting preserved in the Museum, of a Case very similar to the one above described, in a young man twenty-eight years of age, named Jacomo Poro, born at Genes in 1714;—and also a drawing of Peruntaloo, a Gentoo boy, thirteen years of age, with a parasitic fetus similarly attached, which is considerably more imperfect than that of A-ke, as in this case the arms are deficient.—*Museum Drawings.*

324. A cast, in plaster, of the external organs of generation of a young female who had an imperforate hymen, for which Mr. Hunter operated. The following is an abstract of the case:—Miss M., a young woman about fifteen years of age, was attacked with monthly periodical pains, and a sense of uneasiness and bearing down of the parts contained in the pelvis, which as they continued, increased in severity. Mr. Hunter was sent for, and upon examining the external parts he found an imperforate hymen, rounded and projecting outwards. The whole perinæum

was fuller than usual, and fluctuation could be distinctly felt, by making pressure upon the hymen. An opening was made with a lancet, upwards and downwards, in the direction of the natural opening, and immediately gave exit to a quantity of blood, which was neither in a coagulated nor a putrid state. A small piece of lint was introduced into the opening, but was forced to be removed in consequence of the pain it produced. On the third day, the divided edges had united, but were again separated by a probe, which allowed a good deal of coagulated blood to pass; and on the fifth day from the operation, the parts had assumed all the appearance of a natural hymen. See MSS. "Cases in Surgery," vol. i. p. 221. See also a drawing of the parts before the operation,—*Museum Drawings.*

325. A curious and elaborate carving, in wood, of a female human monstrous Fetus. The head is exceedingly imperfect and mal-formed; the upper part of the skull, the palate, and upper lip, being deficient. The greater part of the thoracic and abdominal viscera are protruded externally, in consequence of a partial deficiency of the integuments of the abdomen on the right side. The right superior extremity, which is very much distorted in figure, hangs over towards the left side, and appears firmly attached to the sternum; one of the fingers of the hand is deficient; there is distortion also of the left foot. *Mus. Brit.*

THE END.

LONDON:
PRINTED BY RICHARD TAYLOR,
RED LION COURT, FLEET STREET.

CATALOGUE

OF

THE CONTENTS OF THE MUSEUM

OF

THE ROYAL COLLEGE OF SURGEONS IN LONDON.

PART VI.

COMPREHENDING

THE VASCULAR AND MISCELLANEOUS PREPARATIONS IN A DRIED STATE.

LONDON:

PRINTED BY RICHARD TAYLOR,

RED LION COURT, FLEET-STREET.

1831.

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CATALOGUE.

DRY VASCULAR PREPARATIONS.

Series I. Heart and Blood-vessels.

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1. AN adult human Heart, and the large Vessels arising from it injected. *Hunterian.*
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15. An adult human Heart, injected. *Hunterian.*

16. A human Heart, injected. *Hunterian.*

17. A human Heart, injected. *Hunterian.*

18. An adult human Heart, with the Aorta and Vena cava, injected. The aorta and its branches, down to its division into the common iliac trunks, are shown; as also the veins forming the ascending cava. The thoracic duct, which is likewise injected, is seen running upwards upon the aorta towards the subclavian vein, in which it terminates. The trachea is left in situ.
Presented by Sir William Blizard. 1811.

19. A similar preparation of the human Heart and Aorta.
Presented by Sir William Blizard. 1811.

20. An adult human Heart, the cavities of which are exposed. *Hunterian.*

21. A human Heart, injected. *Hunterian.*

22. A human Heart, injected. *Hunterian.*

23. An adult human Heart, injected. *Presented by Sir William Blizard.* 1811.

24. An adult human Heart, injected and corroded.
Presented by Sir William Blizard. 1811.

25. An adult human Heart, injected and corroded.
Presented by Sir William Blizard. 1811.

26. A human Heart, injected. The coronary artery is filled with quicksilver.
Presented by Sir William Blizard. 1811.

27. A similar preparation. *Presented by Sir William Blizard.* 1811.

28. A small human Heart, injected and corroded.
Presented by Sir William Blizard. 1811.

29. A similar specimen. *Presented by Sir William Blizard.* 1811.

30. A small human Heart, opened, to show its cavities. *Hunterian.*

31. A fetal human Heart and Arterial System, as illustrative of the fetal circulation; showing the ductus arteriosus between the pulmonary artery and

the aorta, and the division of the umbilical vein, the right branch of which communicates with the trunk of the vena portæ, the left, or ductus venosus, opening into the hepatic veins near their termination in the vena cava. *Presented by Sir William Blizard.* 1811.

32. A fetal human Heart, injected, to show the ductus arteriosus and ductus venosus. *Hunterian.*

33. A fetal human Heart, injected, showing the ductus arteriosus. *Hunterian.*

34. A fetal human Heart, injected, showing the ductus arteriosus. *Hunterian.*

35. A similar preparation of a fetal human Heart. The trachea and œsophagus are left attached. *Presented by Sir William Blizard.* 1811.

36. The human Aorta and Jugular Veins, injected; showing the termination of the thoracic duct on each side. The trachea and œsophagus are left attached. *Hunterian.*

37. A human Aorta, injected, from its origin to its division into the iliacs. The course of the thoracic duct, which is also injected, is traced upwards upon the bodies of the vertebræ (which have been left attached for that purpose), to its termination in the subclavian vein. *Hunterian.*

38. A preparation of the human Head and Neck, exhibiting the principal arteries and veins, injected. *Hunterian.*

39. A preparation of the human Head and Neck, of which the arteries only are injected; some of the branches of the external carotid, as the lingual and occipital, are more clearly shown than in the preceding preparation. The right ramus of the lower jaw is removed, to show the internal maxillary artery, and the passage of the dental artery into its canal in the lower jaw: the left half of the calvaria is also removed, to show the arterial circle of Willis, the tentorium, and the falx cerebri.
Presented by Sir William Blizard. 1811.

40. The right superior maxillary Bone (human), showing the distribution of the branches of the infra-orbital artery. *Hunterian.*

41. The right superior Extremity (human), with the vessels injected, showing a high division of the brachial artery. *Hunterian.*

42. A right superior Extremity (human), with the arteries injected; the muscles are also dissected. *Hunterian.*

43. A left superior Extremity (human), with the arteries injected. *Hunterian.*

44. A female human Hand, injected for the arteries; showing the ulnar artery, giving off the ulnaris profunda, and forming the arcus superficialis in the palm; as also the radial artery, forming the arteria magna pollicis and arcus profundus; the superficialis volæ terminates at the base of the thumb, close to the annular ligament of the carpus, without inosculating with the arcus superficialis. *Presented by Robert Liston, Esq.* 1816.

45. A human Hand, injected for the arteries.
Presented by Sir William Blizard. 1811.

46. The arm of a human Fetus, injected, to show the course and distribution of the brachial artery. *Presented by Sir William Blizard.* 1811.

47. A longitudinal section of a small portion of human Vein, dried, to show the valves. *Hunterian.*

48. The heart of a male Gibbon (Hylobates), injected. In its general form, it resembles the human heart. The right subclavian artery and the two carotids arise from the aorta by one common trunk, or arteria innominata, the left subclavian arises singly. The animal was presented to Mr. Hunter by Lord Shelburne. *Hunterian.*

49. The body of a Magot, or Barbary Ape (Pithecus Inuus), dissected for the muscles and blood-vessels, which are injected. *Hunterian.*

50 The heart of a small female Magot, injected. *Hunterian.*

51. The heart of a large Monkey, injected, (species unknown). The origin of the vessels from the aorta is the same as in the gibbon. *Hunterian.*

52. The heart of a male Mandrill (Papio Mormon), injected. The heart is not so broad at the base as in the human subject, nor so flat, and the two ventricles are more twisted, or plaited upon one another. The left ventricle is long, and to appearance, a rounded distinct body; the heart's obliquity is nearly equal to that of the human subject; therefore there

is but a very short inferior cava, but it is continued a little way along the diaphragm before it passes through.

From the arch of the aorta arise two arteries; the first, a large one, is the common trunk of the right subclavian and the two carotids; the second is the left subclavian. *Hunterian.*

53. The heart of the Ring-tailed Lemur (Lemur Catta), injected: one common trunk gives off both the carotid and subclavian arteries. *Hunterian.*

54. The heart of a Ring-tailed Lemur, injected. *Hunterian.*

55. The heart of a Bear (Ursus Arctos), injected; the arteria innominata, as in the lion, gives off both the carotids and the right subclavian artery. *Hunterian.*

56. The left anterior extremity of a Bear, dissected for the muscles and blood-vessels, which are injected. *Hunterian.*

57. The heart of an Otter (Mustela Lutra), injected: the aorta gives off its vessels by two trunks; the first dividing into the right subclavian and both the carotids, the second forming the left subclavian. *Hunterian.*

58. The heart of an Otter, injected. *Hunterian.*

59. The heart of an Otter, injected. *Hunterian.*

60. The heart of a Lion, injected; the trachea is left attached, to show its relative situation. *Hunterian.*

61. The heart of a Lion, injected, with the lower portion of the trachea attached. *Hunterian.*

62. The heart of a Lion, injected. *Hunterian.*

63. The heart of a Lion, injected. *Hunterian.*

64. The head, neck, and thorax of a Lion, with the arteries and veins injected. The scapula and ribs on the right side have been removed, for the purpose of exhibiting the mode of origin of the vessels which arise from the arch of the aorta. The arteria innominata gives off both the right subclavian and the right and left carotid arteries, while the left subclavian artery arises by a separate trunk. On the left side of the neck, the

course of the carotid artery and external jugular vein is shown; the branches of the external carotid here seen, are, the lingual, the maxillary, and the external auditory. The branches of the jugular vein are, the temporal, the auricular, the sublingual, and the occipital. On the right side of the neck and head, a more perfect view of the course and distribution of the external carotid is obtained, by the removal of the veins, the greater part of the muscles of that side of the neck, the masseter and temporal muscles, and, also, a portion of the lower jaw; by this means, in addition to those branches of the carotid already described as exhibited on the left side, the internal maxillary, of which the infra-orbital branch ramifies largely upon the upper lip, supplying the bulbs of the whiskers; and also the temporal and occipital branches, together with the arterial plexus formed at the point where the internal carotid enters the skull, are exposed. Within the thorax are seen the internal mammary, the vertebral, and some of the intercostal vessels. *Hunterian.*

65. A longitudinal section of the skull of a Lion, with the first and second cervical vertebræ attached. The external carotid artery and its branches are injected, and their distribution shown; the arterial plexus, where the vessel enters the skull, is also displayed. *Hunterian.*

66. The right anterior extremity of a Lion, dissected for the muscles, and arteries, which are injected; the transmission of the brachial artery through the foramen at the inferior extremity of the humerus, is very distinctly shown in this specimen. *Hunterian.*

67. The posterior part of the body and extremities of a Lion (See No. 64), injected, to show the distribution of the arteries arising from the descending aorta, with their accompanying veins, as far as the external iliacs, from which point, the arterial system alone has been traced. The vessels seen within the abdomen are, the superior mesenteric, the renal, the spermatic, the inferior mesenteric, the lumbar, sacral, iliac, and caudal arteries. The course of both the internal and external iliac arteries is shown; the former giving off the gluteal, the ischiatic, the internal pudendal, and obturator arteries; the latter continued into the femoral artery, which gives off the profunda and other muscular branches, and

terminates in the anterior and posterior tibial arteries, the ultimate distribution of which, in the foot, is shown. *Hunterian.*

68. The heart of a large Tiger (Felis Tigris), injected. The origin of the vessels is the same as in the lion. *Hunterian.*

69. The heart of a Tiger, injected. *Hunterian.*

70. The arch, with a considerable portion of the descending trunk of the aorta, of a Quadruped. The origin of the subclavian and carotid arteries is the same as in the lion. *Hunterian.*

71. The aorta, vena cava, and thoracic duct of a Quadruped, injected. The origin of the carotids and subclavian arteries is the same as in the lion, tiger, &c. *Hunterian.*

72. The heart and aorta, (from the arch of which the vessels arise as in the human body,) the vena cava, &c. of a Seal (Phoca vitulina), injected. In this specimen the great dilatation of that portion of the ascending cava, situated between the liver and diaphragm, is well shown, a circumstance which appears to be peculiar to diving animals generally; the reticulate arrangement of the renal veins upon the right kidney, which has been injected, is also shown. *Hunterian.*

73. The heart of a Seal, injected. *Hunterian.*

74. The heart of a young Seal, injected, showing the communication between the pulmonary artery and aorta, by the ductus arteriosus. *Hunterian.*

75. The heart (apparently of a young Seal), injected. The communication between the pulmonary artery and aorta by the ductus arteriosus is shown. *Hunterian.*

76. The heart of a Walrus (Trichechus Rosmarus), injected. The aorta gives off two large trunks, the first of which divides into the right subclavian and both carotids; the second forms the left subclavian artery alone. The ventricles in this specimen are slightly separated at their apices, somewhat resembling the bifid form of the heart in the genus Hallicore, but in a less degree: it may perhaps in this instance have been increased, if not produced, by the force of injection only. *Hunterian.*

77. The aorta and pulmonary artery of a young Walrus, injected, to show the ductus arteriosus. *Hunterian.*

78. The heart of an Opossum (Didelphis), injected. The origin of the vessels from the arch of the aorta is the same as in the lion, &c. *Hunterian.*

79. The heart of an Opossum, injected. *Hunterian.*

80. The heart of a Kanguroo (Kangurus labiatus), injected. The mode of origin of the vessels from the arch of the aorta, is the same as in the lion, bear, &c., viz. by two trunks. *Hunterian.*

81. The heart of a Beaver (Castor Fiber), injected. The arteria innominata here gives off the right carotid and subclavian; the left carotid and subclavian arteries arising by separate trunks from the aorta. *Hunterian.*

82. The heart of a Beaver, injected. *Hunterian.*

83. The heart of the Cat Squirrel (Sciurus vulpinus), injected. The vessels arise from the arch of the aorta by two trunks; the first dividing into the right subclavian and the carotids, the other forming the left subclavian. *Hunterian.*

84. The heart of the Cat Squirrel, injected. *Hunterian.*

85. The heart of the common Squirrel (Sciurus vulgaris), injected. *Hunterian.*

86. The heart of a Porcupine (Hystrix cristata), injected. The vessels from the arch of the aorta arise as in the kanguroo. *Hunterian.*

87. The heart of the Hudson's Bay Porcupine (Hystrix dorsata), injected. *Hunterian.*

88. The heart of a Hare (Lepus timidus), injected. The origin of the vessels from the arch of the aorta is the same as in the opossum. *Hunterian.*

89. The heart of the Capybara (Hydrochœrus Capybara), injected. One large trunk, or ascending aorta, gives off both the carotid, and subclavian arteries. *Hunterian.*

90. The heart of the long-nosed Cavy, or Aguti (Dasyprocta Aguti), injected. In this, as in the capybara, one common trunk, or ascending aorta, gives off both the carotid and subclavian arteries. *Hunterian.*

91. The heart of the yellow Paca (Cœlogenus fulvus), injected. The origin of the vessels from the arch of the aorta is the same as in the lion, kanguroo, &c. viz. by two common trunks. *Hunterian.*

92. The heart of an Elephant (Elephas Indicus), injected. The arteria innominata gives off the right subclavian and both carotid arteries; the left subclavian arises by a separate trunk. The termination of the thoracic duct is also shown. *Hunterian.*

93. The heart of a smaller Elephant, injected. This and the preceding specimen were from two animals that died at Pimlico, and were presented to Mr. Hunter by Her late Majesty Queen Charlotte. *Hunterian.*

94. The valves of the aorta of a young Elephant, dried. *Hunterian.*

95. A cast, in wax, of the valves of veins of an Elephant. *Hunterian.*

96. A similar cast of the valves of veins, of an Elephant of smaller size. *Hunterian.*

97. The heart of a Boar (Sus Scrofa), injected. The origin of the vessels from the arch of the aorta is the same as in the class Feræ, viz.—the carotids, and right subclavian artery, arise by one large trunk, the left subclavian arises by a separate origin. The vena azygos passes upwards on the left side of the aorta; it then crosses that vessel below its curvature, and is continued round towards the right auricle, in which it terminates; embracing as it were, the pulmonary vessels, over the anterior or upper surface of which it passes; in its course onwards, it becomes closely attached to the posterior part of the left auricle, in a manner similar to the left subclavian vein in birds. *Hunterian.*

98. The heart of a Boar, injected. *Hunterian.*

99. A portion of the aorta and vena cava of a Boar, injected, with the mesenteric vessels attached. *Hunterian.*

100. Mesenteric arteries and veins of a Boar, injected. *Hunterian.*

101. Mesenteric vessels of a Boar, injected. *Hunterian.*

102. Mesenteric vessels of a Boar, injected. *Hunterian.*

103. Mesenteric vessels of a Boar, injected. *Hunterian.*

104. Mesenteric vessels of a Sow, injected. *Hunterian.*

105. The heart of the American Tapir (Tapirus Americanus), injected. From the arch of the aorta, one large trunk, or arteria innominata, gives off both the carotid and subclavian arteries. *Hunterian.*

106. A section of the posterior part of the skull of an Ass (Equus Asinus), showing, externally, the course of the carotid artery and some of its branches; and exposing, internally, the cavities of the cranium and frontal sinus, together with the larynx, pharynx, trachea, and œsophagus. *Hunterian.*

107. A portion of the jugular vein of a Horse, dried and slit open, to show a pair of semilunar valves. *Hunterian.*

108. A portion of the jugular vein of a Horse, dried, to show the valves. *Hunterian.*

109. A foot of a Horse, injected, for the arteries and veins. *Presented by Sir E. Home, Bart.*

110. A similar preparation. *Presented by William Goodwin, Esq.* 1819.

111. The heart of a Bactrian Camel (Camelus Bactrianus), injected. The aorta gives off its arteries at the arch by two large trunks; a considerable portion of the descending aorta is left attached, and shows the course of the vena azygos upon its right side, towards the superior vena cava, in which the right and left subclavian and jugular veins terminate. The subdivisions of the pulmonary artery, and the termination of the inferior cava, are also shown. The thoracic duct is injected, and of large size; the superficial distribution of the coronary vessels of the heart is very distinct. *Hunterian.*

112. The heart of a Dromedary (Camelus Dromedarius), injected; the vessels of which are left attached to a more considerable length than in the preceding specimen. The course of the thoracic duct, and its termination at the junction of the subclavian and jugular veins, is remarkably distinct.

This specimen is from the aimal whose skeleton is preserved in the Museum.—See No. 877, Osteol. Catalogue. *Mus. Brookes.*

113. The descending aorta of a Camel, from the diaphragm, to its division into

the common iliac trunks, with the cœliac and superior mesenteric arteries, injected; the lymphatic vessels on the aorta, ascending towards the thoracic duct, and also the lacteals of the mesentery, are injected. *Hunterian.*

114. The valves of the aorta of a Camel, dried. *Hunterian.*

115. The valves of the aorta of a Camel, dried. *Hunterian.*

116. Portions of the right and left carotid arteries of a Camel. They are three feet three inches in length. *Hunterian.*

117. Portions of the right and left carotid arteries of a Camel, injected. *Hunterian.*

118. One of the jugular veins of a Camel, injected; with the valvular dilatations very distinct. *Hunterian.*

119. Eight portions of the jugular vein of a Camel, separated at the valves. *Hunterian.*

120. The heart of a Doe (Cervus Dama), injected. A single trunk, or aorta ascendens, gives origin to both the carotid and subclavian arteries; the vena cava ascendens sends down a branch to the vena azygos, which enters the right auricle, after having taken its course upon the right side of the aorta in its ascent. *Hunterian.*

121. The heart of a Doe, injected. *Hunterian.*

122. The heart of an Antelope, injected. (Species not known.) *Hunterian.*

123. The heart of a young Goat (Capra Hircus), injected. The aorta, at its greatest convexity, gives off one large trunk, or arteria innominata, which, after a short course, divides into the subclavian and carotid arteries. *Hunterian.*

124. The heart of a Sheep (Ovis Aries), injected. The division of the aorta into an ascending trunk, and its subsequent distribution, is the same as in the ox. The double thoracic duct, which is also injected, is seen terminating in the angle of the jugular and subclavian veins. *Hunterian.*

125. The heart of an Ox (Bos Taurus), injected. The aorta, at a short distance from its origin, divides into two equal trunks, one ascending to give off

the carotid and subclavian arteries, the other forming the arch; the vena azygos is double. *Hunterian.*

126. The commencement of the aorta and pulmonary artery of an ox, injected with plaster of Paris; the ossicula at the valves of the aorta are left attached. *Mus. Brookes.*

127. The heart of the common Dolphin (Delphinus Delphis), injected. The animal from which this specimen was removed was cast on shore at Worthing in the year 1806. *Presented by Sir E. Home, Bart.*

128. The aorta and vena cava, with their principal branches, of a Dolphin (Delphinus Tursio), injected. The course and termination of the thoracic duct are also shown. *Hunterian.*

129. The heart and lungs of a large Porpesse (Delphinus Phocæna), injected. *Hunterian.*

130. The heart of a large Porpesse, injected. *Hunterian.*

131. The heart of a Porpesse, injected. *Hunterian.*

132. The heart and aorta of a Porpesse, injected; showing the intercostal arterial plexuses. *Hunterian.*

133. A portion of the aorta of a Porpesse, injected for the same purpose. *Hunterian.*

134. The aorta, vena cava, and thoracic duct of a Porpesse, injected. *Hunterian.*

135. The heart of the Bottle-nose Whale (Delphinus Dalei), injected. The mode of origin of the vessels from the arch of the aorta is the same as in the human body; the arteria innominata giving off the right carotid and subclavian arteries, the left carotid and subclavian arteries arising from the aorta by separate trunks. The animal from which this preparation was obtained was caught in the river Thames, in the year 1783; and is described by John Hunter in the Philos. Trans. for the year 1787, vol. lxxvii. p. 373. See also No. 1145, Osteol. Catalogue. *Hunterian.*

136. The right humerus of an Eagle, with some of the muscles dissected. *Hunterian.*

137. A common Fowl (Phasianus Gallus), injected, for the arteries and veins. *Hunterian.*

138. The heart of a Turkey (Meleagris Gallopavo), injected; the origin of its vessels is the same as in the swan. *Hunterian.*

139. The heart of an Ostrich (Struthio Camelus), injected. The aorta, in this instance, may, with more propriety, be said to give off two branches, rather than to divide into three trunks, as in the swan, &c.; as the first, or ascending aorta, is more than twice the calibre of the two other trunks, which form the subclavian, carotid, and vertebral arteries: the division of the pulmonary artery, at a short distance from its origin, is the same. *Hunterian.*

140. The heart of an Ostrich, injected. *Hunterian.*

141. The heart of an Ostrich, injected. *Hunterian.*

142. The heart of an Ostrich, with portions of the parietes removed, to show the cavities of the auricles and ventricles, their communications with each other, and the origins and terminations of all the great vessels connected with them. *Hunterian.*

143. The trunk of an Ostrich, with the sternum and anterior portions of the ribs removed, showing the heart in situ, and the distribution of the principal blood-vessels, injected. *Hunterian.*

144. The head and neck of an Ostrich, injected, for the arteries and veins. *Hunterian.*

145. The right wing of an Ostrich, with the arteries and veins injected, to show their distribution. *Hunterian.*

146. Part of the pelvis, and the right leg of an Ostrich, dissected for the muscles and arteries, which are injected. *Hunterian.*

147. A portion of vein of an Ostrich, with an absorbent vessel running upon its surface, injected with quicksilver. *Hunterian.*

148. The heart of a Bustard (Otis Tarda), injected: the origin and division of its vessels are the same as in the swan and turkey. *Hunterian.*

149. The heart of a Swan (Anas Cygnus), injected. The aorta, almost immediately at its origin from the left ventricle, divides into three nearly equal trunks; the first (or that towards the right side) forms the ascending aorta; the middle one forms the right subclavian, carotid, and large ver-

tebral arteries; while the third or left trunk divides into the corresponding vessels on the opposite side of the neck. The pulmonary artery, at a short distance from its origin on the left side of the right ventricle, divides into two large lateral branches, one going to each lung. *Hunterian.*

150. The carotid arteries of a Swan, injected. *Hunterian.*

151. A Swan, injected, to show the course and distribution of the principal vessels, the sternum and part of the ribs having been removed for that purpose. *Hunterian.*

152. The body of a Swan, injected, to show the heart in situ, and the vessels arising from it. *Hunterian.*

153. The heart of a young Gosling, injected. *Hunterian.*

154. The heart, the double aortæ, and the vena cava of an East Indian Tortoise (Testudo Indica), injected. *Hunterian.*

155. The heart of a Tortoise, injected; it shows the double origin of the aorta, and the right, or principal descending trunk. *Hunterian.*

156. The descending aortæ of a Tortoise, injected, showing the junction of their trunks. *Hunterian.*

157. The head and cervical vertebræ of a small Tortoise, with the heart and its vessels (which are injected) left attached: this preparation also shows the high or anterior division of the trachea, which has been preserved for that purpose. *Hunterian.*

158. The heart of a Turtle (Testudo Caretta), injected; the double aorta takes its origin from the right side of the single ventricle, and forms at the angle of its bifurcation a third trunk, which divides into the axillary and carotid arteries. The pulmonary artery, which arises immediately behind the aortæ, divides into two equal trunks, that take their course laterally. *Hunterian.*

159. The heart of a Turtle, with the aortæ and mesenteric artery, injected: the lacteals on the mesentery, and the lymphatics upon the aortic trunks, in their course towards the veins, are also injected, to show their large size. *Hunterian.*

160. The heart and blood-vessels of a Turtle, including those of the mesentery and kidneys. *Hunterian.*

161. The heart of a Turtle, with its cavities laid open, to show the valves between the ventricle and the right and left auricles; and also, the origins of the aortæ and pulmonary artery, and the deficiency of a true ventricular septum. *Hunterian.*

162. The upper shell, or carapace of a Green Turtle; the abdominal shell, and also the extremities of the right side, together with the whole of the viscera, except the urinary bladder, have been removed; the course of the double aorta, with its junction upon the spine, and some of the visceral branches, are shown. *Hunterian.*

163. A smaller specimen of the same species of Turtle, with the arterial system displayed in a similar manner in situ. *Hunterian.*

164. The heart and aorta of a Turtle, injected, and corroded. *Hunterian.*

165. The descending aortæ of a Turtle, injected, showing the junction of their trunks. *Hunterian.*

166. The body of a young Gangetic Crocodile (Crocodilus biporcatus), with the thorax and abdomen opened, to show the heart, and the course of the principal arteries, which are injected, in situ. *Hunterian.*

167. The trunk of a small Crocodile (Lacerta Crocodilus); the sternum has been removed to expose the heart, and the course and junction of the descending aortæ. (Imperfect.) *Hunterian.*

168. A posterior view of the heart of a small Crocodile, injected, with the junction of the descending aortæ, and the course of the vena cava. *Hunterian.*

169. The heart, and principal part of the arterial and venous system, of a small Crocodile, injected; the stomach is preserved in connection with its vessels. *Hunterian.*

170. The descending aortæ of a Crocodile, to show the junction of the vessels. *Hunterian.*

171. The abdominal portion of the spine of a small Crocodile, with two small arteries which run along upon the side of the bodies of the vertebræ, injected. *Hunterian.*

172. The lumbar vertebræ and pelvis of a small Crocodile, with the lower portion of the aorta, the renal vessels, and the right kidney, injected. *Hunterian.*

173. The heart of a Rattle-snake (Crotalus), injected. As in the tortoise, the aorta arises double, and the junction of the trunks takes place upon the lumbar vertebræ. *Hunterian.*

174. A Rattle-snake, with the heart and blood-vessels injected. *Hunterian.*

175. The heart of a large Toad (Rana Bufo), injected. It is composed of a single auricle and ventricle; from the latter, the arterial trunk, or aorta, arises, and immediately after its origin divides into two branches, which ultimately unite into one descending aorta, at the inferior part of the spine. *Hunterian.*

176. The heart of a Frog (Rana temporaria), injected. As in fishes, the heart is composed of two cavities, a single auricle, and a single ventricle. *Hunterian.*

177. The head and heart, with some of the adjacent viscera left attached, of the North American Syren, or Kattewagoe (Lacerta Alleghaniensis), injected, showing the divisions of the branchial artery. *Hunterian.*

178. The heart and branchial vessels of a Cod-fish (Gadus Morhua), injected, in situ. *Hunterian.*

179. The heart and branchial vessels of a Cod-fish, injected, in situ. *Hunterian.*

180. The vena portarum of an Eel (Muræna vulgaris), having a plexus of small vessels running upon it. *Hunterian.*

181. The heart and branchial vessels of a Dog-fish (Squalus Catulus), injected. *Hunterian.*

182. The heart of the White Shark (Squalus Carcharius), injected. The branchial artery and its bulb are shown, the former giving off the lateral branches distributed upon the gills. The venous sinus, which receives the venæ cavæ, is seen opening into the posterior part of the single auricle. *Hunterian.*

183. The heart of the Basking Shark (Squalus maximus), injected, with the

commencement of the branchial artery and its bulb. The shark was caught at Brighton in the year 1812. See No. 1841, Osteol. Catalogue. *Presented by Sir E. Home, Bart.*

184. The circulating organs of a Cuttle-fish (Sepia officinalis), injected; showing the single aortal, and the two pulmonary hearts. *Hunterian.*

185. The circulating organs of a Cuttle-fish, injected. In this specimen the gills are left, in connection with the branchial hearts. *Hunterian.*

186. Four hearts of Snails (Helix Pomatia), injected. *Hunterian.*

187. The heart of a fresh-water Muscle (Anodon anatinus). *Hunterian.*

188. The heart of a Lobster (Astacus marinus), injected. *Hunterian.*

189. The body of a Lobster, in longitudinal section, with the arterial and venous system injected. (Imperfect.) *Hunterian.*

190. The body of a larva of the Silk-moth (Bombyx Mori), injected. *Hunterian.*

191. A portion of the disc of a Medusa, injected, showing the reticulate arrangement of its vessels. *Hunterian.*

Absorbent System.

192. An absorbent Gland. Human. *Hunterian.*

193. The Thoracic Duct, injected. Human. *Hunterian.*

194. Absorbent Vessels, injected with quicksilver, probably of a Whale. *Hunterian.*

195. Two absorbent glands of a Turtle, injected with quicksilver. *Hunterian.*

196. A portion of the trunk of an absorbent of a Cod-fish, injected with quicksilver. *Hunterian.*

197. A small portion of an absorbent vessel of a Cod-fish, injected. *Hunterian.*

198. A similar preparation. *Hunterian.*

Organs of Respiration.

199. A human Heart, and Pulmonary Vessels, injected and corroded. The right lung has the air-cells also injected, preserving by that means the form of the organ; the left lung has had its substance removed by corrosion, the blood-vessels alone having been filled with wax. *Hunterian.*

200. A human Heart, and Pulmonary Vessels, injected and corroded. The air-cells of both lungs have been partially injected. *Hunterian.*

201. A portion of the trachea, to which the œsophagus is left attached, with the larynx and laryngeal sacculi, of a Mandrill (Simia Mormon). *Hunterian.*

202. The head of a Macaque (Macacus), showing the laryngeal sacculus, and also the cheek pouches. *Hunterian.*

203. The upper portion of the trachea, with the larynx, and laryngeal sacculus, of a Monkey. *Hunterian.*

204. The upper portion of the trachea, with the larynx and laryngeal sacculus, of a Monkey. *Hunterian.*

205. The os hyoides, larynx, and a portion of the trachea, of a Lion. *Hunterian.*

206. The trachea and lungs of a Sloth; the lungs are injected with wax, and show the excavation in each lobe, forming a cavity in which the heart is imbedded. *Hunterian.*

207. The os hyoides, larynx, and trachea, of an Elephant. *Hunterian.*

208. The os hyoides, larynx, and trachea, of a Camel. *Hunterian.*

209. A small portion of the lung of a Porpesse (Delphinus Phocæna), with the air-cells and bronchial tubes, injected and corroded. (Imperfect.) *Hunterian.*

210. A portion of the lung of a Porpesse, in section, the air-cells of which have been filled with quicksilver. *Hunterian.*

211. A similar section of the lung of a Porpesse. *Hunterian.*

212. A similar section of the lung of a Porpesse. *Hunterian.*

213. The larynx, and a portion of the trachea of a female Dolphin, eleven feet

long, which, together with its young-one, was caught upon the sea-coast, near Berkeley in Gloucestershire. They were presented to Mr. Hunter by Dr. Jenner.—See Philos. Trans. vol. lxxvii. p. 373. pl. xviii.

Hunterian.

214. The posterior cornua of the os hyoides, the larynx, and the trachea of the Piked Whale (Balæna Boops). *Hunterian.*

In Mr. Hunter's paper "On the Structure and Œconomy of Whales," in the Philos. Trans. vol. lxxvii. p. 416, the following description of the larynx is given:—

"The larynx, in most animals living on land, is a compound organ, adapted both for respiration, deglutition, and sound, which last is produced in the actions of respiration; but in this tribe, the larynx, I suppose, is only adapted to respiration, as we do not know that they have any mode of producing sound.

"It is composed of os hyoides, thyroid, cricoid, and two arytenoid cartilages, with the epiglottis.

"It varies very much in structure and size, when compared in animals of different genera. These cartilages were much smaller in the Bottle-nose Whale of twenty-four feet long, than in the Piked Whale of seventeen feet, while the os hyoides was much larger.

"In the Bottle-nose, the os hyoides is composed of three bones, besides two whose ends are attached to it, being placed above the os hyoides, making five in all. In the Porpoise, Piked Whale, &c. it is but one bone, slightly bent, having a broad thin process passing up, which is a little forked: it has no attachment to the head, by means of other bones, as in many quadrupeds.

"The thyroid cartilage in the Piked Whale is broad from side to side, but not from the upper to the lower part: it has two lateral processes, which are long, and pass down the outside of the cricoid, near to its lower end, and are joined to it much as in the human subject. These differ in shape in different animals of this tribe.

"The cricoid cartilage is broad and flat, making the posterior and lateral part of the larynx, and is much deeper behind, and laterally, than

before. It is extremely thick and strong, flattened on the posterior surface, and hollowed from the upper edge to the lower. It terminates by a thick edge on the posterior part above, but irregularly at the lower edge, in the cartilages of the larynx.

" The two arytenoid cartilages are extremely projecting, and united to each other till near their ends; are articulated on the upper edge of the cricoid, but send down a process, which passes on the inside of the cricoid, being attached to a bag in the Piked Whale, which is formed below the thyroid and before the cricoid cartilages; they cross the cavity of the larynx obliquely, making the passage, at the upper part, a groove between them: the cavity at this place swells out laterally, but is very narrow between the anterior and posterior surfaces. The passage above, between the arytenoid and thyroid cartilages, is wide from side to side, and is continued down on the outside of the processes of the arytenoid cartilage, as well as between them, ending below the thyroid, which is folliculated on its inner surface on the fore part of the cricoid cartilage.

" The epiglottis makes a third part of the passage, and completes the glottis by forming it into a canal, in several of this tribe; but in the Piked Whale it was not attached to the two arytenoid cartilages, but only in contact, or inclosing them at their base, so as to form a complete canal. I could not observe anything like a thyroid gland.

" From the glottis and epiglottis being so connected as to make but one canal, and from the thyroid and cricoid cartilages being so flattened in some between the anterior and posterior surface, the passage through these parts is very small or contracted; but the trachea swells out again into a very considerable size. Its larger branches are in proportion to the trunk, and enter the lungs at the upper end along with the blood-vessels." *Hunterian.*

215. A Hawk, with the air-cells in the abdomen, which form the medium of communication between the lungs and the cavities of the humeri, and femora, injected with wax from the trachea. *Hunterian.*

216. A cast in wax of the cavity of the humerus of a Hawk, which communicates with the air-cells of the lungs. *Hunterian.*

217. A similar cast of the cavity of the humerus of a smaller bird. *Hunterian.*

218. The trachea of an Ostrich. *Hunterian.*

219. The lower portion of the trachea of an Ostrich. *Purchased.*

220. The bifurcation of the trachea of an Ostrich. *Hunterian.*

221. The pulmonary vessels of an Ostrich, injected and corroded. *Hunterian.*

222. The trachea of the Gannet (Pelecanus Bassanus), male.
Presented by Wm. Yarrell, Esq.

223. The trachea of a Spoon-bill (Platalea). *Presented by Dr. Leach.* 1819.

224. The convoluted portion of the trachea of a Spoon-bill. *Hunterian.*

225. The trachea of a Swan (Anas Cygnus), showing the expansion or dilatation of the tube at its upper and lower part.
Presented by Dr. Leach. 1824.

226. The trachea and larynx of the Gambia or Spur-winged Goose (Anas Gambensis). *Presented by Dr. Leach.* 1824.

227. The trachea of the Brent Goose (Anas Bernicla), male; showing its double dilatation. *Presented by Wm. Yarrell, Esq.*

228. The bony larynx of the common Duck (Anas Boschas), male. *Hunterian.*

229. The trachea and larynx of the Wild Duck, male.
This and the eleven following specimens were presented by William Yarrell, Esq.

230. The trachea of the Wild Duck, female.

231. The trachea and larynx of the Common Duck, male.

232. The trachea of the Common Duck, female.

233. The trachea and larynx of the Tufted Duck (Anas cristata), male.

234. The trachea of the Tufted Duck, female.

235. The trachea and larynx of the Shoveller Duck (Anas clypeata), male.

236. The trachea of the Shoveller Duck, female.

237. The trachea and larynx of the Pintail (Anas acuta), male.

238. The trachea of the Pintail, female.

239. The trachea and larynx of the Teal (Anas Crecca).

240. The trachea of the Teal, female.

241. The trachea and larynx of the Muscovy Duck (Anas moschata), male.
Presented by Dr. Leach. 1824.

242. The bony larynx of the Muscovy Duck, male. *Hunterian.*

243. A similar preparation. *Hunterian.*

244. The trachea and larynx of the Scaup Duck (Anas Marila), male.
This and the five following specimens were presented by William Yarrell, Esq.

245. The trachea and larynx of the Golden-eye Duck (Anas Clangula), male; showing the single dilatation of the tube.

246. The trachea and larynx of the Shieldrake (Anas Tadorna), male.

247. The trachea and larynx of the Pochard (Anas ferina), male.

248. The trachea and larynx of the Widgeon (Anas Penelope), male.

249. The trachea and larynx of the Goosander (Mergus Merganser), male.

250. The bony larynx of a Goosander. *Hunterian.*

251. The trachea and larynx of the Smew (Mergus Albellus), male.
Presented by William Yarrell, Esq.

252. A Tortoise (Testudo tabulata), injected, for the heart and lungs, which are preserved in situ: the high bifurcation of the trachea upon the œsophagus is also shown. *Hunterian.*

253. A similar preparation of the tabulated Tortoise, injected: the lungs, which are of large size, are injected, and displayed in situ; the course and distribution of the aorta and vena cava are also shown. *Hunterian.*

254. The inferior portion of the trachea of a Turtle, showing the great length of the bronchial tubes before they ramify. *Hunterian.*

255. The bronchial tubes of the trachea of a Tortoise, showing the same circumstance. *Hunterian.*

256. A section of a Turtle's lungs, to show the air-cells, injected and dried.
Hunterian.

257. The trachea and lungs of a small Crocodile, with the heart and aortæ also injected, and left attached. *Hunterian.*

258. A longitudinal section of the head, and the anterior part of the body of a Wolf-fish (Anarhichas Lupus), with the gills and branchial vessels injected. *Hunterian.*

259. The branchial vessels and gills of a Cod-fish, injected. *Hunterian.*

260. A cast in wax of the mouth and branchial apertures of a Dog-fish. *Hunterian.*

261. The branchial organs of a Cuttle-fish, injected. *Hunterian.*

262. The body of a Lobster (Astacus marinus), with the gills exposed. The vascular system is also injected. (Imperfect.) *Hunterian.*

Organs of Digestion.

263. A human Stomach, injected, with a portion of the duodenum left attached, to show the gall-bladder, and its duct terminating in the intestine. *Hunterian.*

264. An adult human Stomach, injected. *Hunterian.*

265. An adult human Stomach, in transverse longitudinal section, injected, including the commencement of the duodenum, in which the biliary duct is seen terminating. *Hunterian.*

266. A small human Stomach, injected. *Hunterian.*

267. A human Gall-bladder, injected. *Presented by Sir Wm. Blizard.* 1811.

268. A human Gall-bladder, with the lymphatic vessels, injected. *Hunterian.*

269. A human Gall-bladder, with its duct, and a portion of the duodenum, in which it terminates, injected. *Presented by Sir Wm. Blizard.* 1811.

270. A human Gall-bladder, opened. *Hunterian.*

271. A human Spleen, injected. *Hunterian.*

272. A human Liver, injected and corroded. (Imperfect.) *Hunterian.*

273. A human Liver, injected and corroded. (Imperfect.) *Hunterian.*

274. A portion of human Liver, minutely injected and corroded. (Imperfect.) *Hunterian.*

275. Human hepatic Artery and Vein, injected and corroded. (Imperfect.) *Hunterian.*

276. A frame containing portions of the human Stomach, and Intestines, injected, and spread out to exhibit their vascularity. *Hunterian.*

277. A frame containing portions of human Intestine, injected, and displayed in a similar manner. *Hunterian.*

278. A portion of human Jejunum, minutely injected. *Hunterian.*

279. A similar preparation. *Hunterian.*

280. A similar preparation. *Hunterian.*

281. A similar preparation. *Hunterian.*

282. A portion of human Ileum, minutely injected. *Hunterian.*

283. A similar preparation. *Hunterian.*

284. A portion of human Ileum, minutely injected, and opened longitudinally, to show the valvulæ conniventes. *Hunterian.*

285. Human Ileum and Cæcum, injected. *Hunterian.*

286. A portion of human Intestine, minutely injected. *Hunterian.*

287. A portion of the Ileum of a human Fetus, injected. *Hunterian.*

288. The Cæcum and appendix vermiformis of a human Fetus. The intestine is opened to show the valve. *Hunterian.*

289. A portion of human Mesentery, with some of the lacteals injected with quicksilver. *Hunterian.*

290. A portion of human Mesentery, injected. *Presented by Sir Wm. Blizard.* 1811.

291. A human Pancreas, injected. *Presented by Sir Wm. Blizard.* 1811.

292. The stomach, and the commencement of the duodenum, of a Monkey, injected. (Species not known.) *Hunterian.*

293. The stomach of a Monkey, injected. (Species not known.) *Hunterian.*

294. The cæcum and appendix vermiformis of a Gibbon (Hylobates). Presented to Mr. Hunter by Lord Shelburne. *Hunterian.*

295. The stomach of a Mandrill (Papio Mormon), injected. *Hunterian.*

296. The cæcum and appendix vermiformis of a Mandrill, injected. *Hunterian.*

297. The stomach of a Mole (Talpa Europæa), injected. *Hunterian.*

298. The gall-bladder and hepatic duct of the Indian Badger (Ursus Indicus), uniting to form the ductus choledochus, with a portion of the duodenum left attached, to show the duct terminating in it. *Hunterian.*

299. The gall-bladder of the East Indian Skunk, or Mephitic Weasel, filled with wax. *Hunterian.*

300. The stomach, and a portion of the duodenum, of an Otter (Mustela Lutra), injected. *Hunterian.*

301. A portion of the small intestine of an Otter, injected. *Hunterian.*

302. The liver of an Otter, injected and corroded. (Imperfect.) *Hunterian.*

303. The gall-bladder of an Otter, injected. *Hunterian.*

304. The cæcum of a Wolf (Canis Lupus), opened to show the valve. *Hunterian.*

305. The stomach, with the commencement of the duodenum, of the Genet, or Gray Weasel (Genetta vulgaris). *Hunterian.*

306. The stomach of a Hyæna (Hyæna vulgaris). *Hunterian.*

307. The stomach, and the commencement of the duodenum, of a Lion (Felis Leo), injected. *Hunterian.*

308. The gall-bladder and duct of a wild Cat, showing its termination in the duodenum. *Hunterian.*

309. The stomach of a Seal (Phoca). *Hunterian.*

310. The stomach of a small Seal, injected. *Hunterian.*

311. A portion of the small intestine of a Seal, injected. *Hunterian.*

312. The stomach of a young Kanguroo (Kangurus labiatus), injected. *Hunterian.*

313. A portion of the small intestine and mesentery of a Kanguroo, injected. *Hunterian.*

314. The cæcum of a Kanguroo, inflated and dried. *Hunterian.*

315. The stomach of the Wombat (Phascolomys Wombat), injected.

This and the six following specimens were presented by Sir Everard Home, Bart.

316. A portion of small intestine of the Wombat, injected.

317. The cæcum and commencement of the colon of the Wombat, injected.

318. A portion of large intestine, or colon, of the Wombat, injected.

319. A similar preparation.

320. A similar preparation.

321. A similar preparation.

322. A portion of the small intestine and mesentery, of a Beaver (Castor Fiber), injected. *Hunterian.*

323. A portion of the intestine of a Beaver, injected and spread out, to show its vascularity. *Hunterian.*

324. A portion of the intestine and mesentery of a Beaver, injected. *Hunterian.*

325. The cæcum and colon of a Beaver, injected: the great size of the former, and the convolutions of the latter part of the intestines, are well shown. *Hunterian.*

326. The cæcum and colon of a Squirrel, from Pulo Condore, inflated and dried. *Hunterian.*

327. The stomach, and part of the intestines of the Flying Squirrel (Pteromys Volucella). *Hunterian.*

328. The stomach and intestinal canal of a Porcupine, injected; showing the bifid extremity of the cæcum. *Hunterian.*

329. The stomach, a portion of the duodenum, and the cæcum of a Porcupine, injected. *Hunterian.*

330. A portion of the small intestine of a Porcupine, injected. *Hunterian.*

331. The stomach, small intestines, and cæcum of a Rabbit, injected. *Hunterian.*

332. The stomach and intestines of an animal of the order Rodentia: the colon resembles that of the Java Hare. *Hunterian.*

333. The gall-bladder of a similar animal. *Hunterian.*

334. The stomach of the Brown Paca (Cœlogenus subniger), injected. *Hunterian.*

335. A portion of the liver of the Brown Paca, with the gall-bladder attached. *Hunterian.*

336. The cæcum of a Sloth (Bradypus tridactylus), inflated and dried, *Hunterian.*

337. Salivary ducts of an Elephant, injected. *Hunterian.*

338. A longitudinal section of the stomach of an Elephant (Elephas Indicus). See Home's Comp. Anat. vol. ii. tab. XVIII. *Hunterian.*

339. The hepatic duct of an Elephant, injected and corroded. *Hunterian.*

340. Lymphatics from the liver of an Elephant, injected. *Hunterian.*

341. A portion of the jejunum of an Elephant, injected, and opened longitudinally. *Hunterian.*

342. A small portion of the same intestine, unopened. *Hunterian.*

343. A similar preparation. *Hunterian.*

344. A portion of the small intestine of an Elephant, injected; in longitudinal section. *Hunterian.*

345. A similar preparation. *Hunterian.*

346. A similar preparation. *Hunterian.*

347. A portion of small intestine of an Elephant, in transverse section, injected. *Hunterian.*

348. A portion of the small intestine of an Elephant, injected, in transverse section, with the mesentery attached. *Hunterian.*

349. A similar preparation. *Hunterian.*

350. A portion of the small intestine of an Elephant, in transverse section. *Hunterian.*

351. A portion of the mesentery of an Elephant, injected. *Hunterian.*

352. A longitudinal section of the cæcum of an Elephant. *Hunterian.*

353. The sublingual gland of a Boar, with its duct, injected and corroded. *Hunterian.*

354. The stomach and spleen of a Hog, injected. *Presented by Sir A. Cooper, Bart.*

355. A portion of the small intestine of a Boar, injected. *Hunterian.*

356. A portion of the small intestine and mesentery of a Boar, injected. *Hunterian.*

357. The cæcum and colon of a Hog, injected. *Hunterian.*

358. A strip of the intestine of a Hog, minutely injected. *Hunterian.*

359. A similar preparation. *Hunterian.*

360. A similar preparation. *Hunterian.*

361. A similar preparation. *Hunterian.*

362. The stomach of a Pecary (Sus Tajassu), opened to show its division into three cavities. *Hunterian.*

363. A portion of intestine and mesentery, injected; in which the arrangement of the vessels is similar to those of the Hog. *Hunterian.*

364. A similar preparation, injected. *Hunterian.*

365. A similar preparation, injected. *Hunterian.*

366. The stomach of a Horse (Equus Caballus), injected. *Hunterian.*

367. The cæcum of a Horse, a portion of which has been removed to show the termination of the ileum. *Hunterian.*

368. The cæcum of a Horse. *Hunterian.*

369. The stomach, duodenum, and cæcum of a Foal, injected. *Hunterian.*

370. A portion of the jejunum of a Foal, injected. *Hunterian.*

371. The cæcum of a young Foal, injected. *Hunterian.*

372. The stomach of a female Bactrian Camel (Camelus Bactrianus), injected; with the first, second, third, and fourth cavities which compose it, laid open to show their structure and communication. This preparation shows the cells in the first and second cavities, for containing water, remarkably distinct. *Purchased.*

373. A portion of the second cavity of the stomach of a Camel, to show the cells. *Hunterian.*

374. A similar preparation. *Hunterian.*

375. A similar preparation. *Hunterian.*

376. A similar preparation. *Hunterian.*

377. The cæcum of a Camel. *Hunterian.*
See Home's Comp. Anat. vol. ii. tab. cxx.

378. The stomach of the Lama (Camelus Glama), injected. *Purchased.*

379. The stomach and intestines of a fetal Deer, injected, showing the four bags which compose a ruminating stomach. *Hunterian.*

380. The cæcum and colon of a Deer, injected. *Hunterian.*

381. The stomach of a fetal Calf, injected. *Hunterian.*

382. The stomach of a Ruminant, injected. *Hunterian.*

383. The stomach and intestines of a fetal Ruminant, showing the fourth cavity, or true stomach, brought into close contact with the lower end of the œsophagus, from which it immediately receives the milk, prior to the development of the ruminating cavities. *Hunterian.*

384. The cæcum and colon of an Antilope, inflated and dried. (Species not known.) *Hunterian.*

385. The stomach of a Goat (Capra Hircus), opened to show its four cavities. *Hunterian.*

386. The cæcum and colon of a Goat, injected. *Hunterian.*

387. The stomach of a Porpesse (Delphinus Phocæna), with its three cavities opened, to show their structure and communication. *Hunterian.*

388. The stomach of a Porpesse, injected, with its cavities similarly displayed. *Hunterian.*

389. The stomach, liver, and spleens of a Porpesse, injected. *Presented by Sir A. Carlisle.*

390. A portion of the liver of a Porpesse, injected and corroded. *Hunterian.*

391. The hepatic vessels of a Porpesse, injected and corroded. (Imperfect.) *Hunterian.*

392. A portion of the small intestine of a Porpesse, showing the longitudinal arrangement of the valves. *Hunterian.*

393. A portion of the small intestine of a Porpesse, injected. *Hunterian.*

394. A similar preparation. *Hunterian.*

395. The cæcum of a Porpesse, injected. *Hunterian.*

396. The stomach of a Whale, with its cavities exposed. *Hunterian.*

397. The cæcum of the Bottle-nose Whale, in longitudinal section. *Hunterian.*

398. The gall-bladder of a small Bottle-nose Whale, showing the hepato-cystic ducts terminating in it, one on each side. *Hunterian.*

399. The gall-bladder of a Whale, differing only in size from the preceding preparation. (Filled with plaster.) *Hunterian.*

400. A portion of the small intestine and mesentery of a Whale-bone Whale, with the arteries, veins, and lacteals, injected. *Hunterian.*

401. A portion of the small intestine of the Bottle-nose Whale, with the blood-vessels and lacteals injected (the latter with quicksilver). *Hunterian.*

402. A portion of the small intestine of the Bottle-nose Whale, injected, showing its internal sacculated structure. *Hunterian.*

403. A similar preparation. *Hunterian.*

404. A similar preparation. *Hunterian.*

405. A similar preparation. *Hunterian.*

406. A similar preparation. *Hunterian.*

407. The cæcum of a Whale-bone Whale, injected. *Hunterian.*

408. The head, neck, and anterior part of the trunk of an Eagle (Aquila), the œsophagus and stomach of which are injected and exhibited in situ. The os hyoides and trachea are also preserved; the latter is laid open from the glottis to its bifurcation. *Hunterian.*

409. The stomach of a small Eagle, injected. The glandular structure surrounding the lower part of the œsophagus, and the radiation of the muscular fibres from the lateral tendons, are shown in this preparation. *Hunterian.*

410. The œsophagus, crop, and stomach of a Golden Eagle (Aquila regia). *Hunterian.*

411. The stomach of an Accipitrine Bird. *Hunterian.*

412. The stomach and gastric glands of a Carnivorous Bird, injected. *Hunterian.*

413. A portion of the intestine of a Crow (Corvus Corone), with the cæca attached, showing their diminutive size in carnivorous birds. *Hunterian.*

414. A portion of the small intestine and mesentery of an Ostrich, injected. *Hunterian.*

415. A portion of the intestine and mesentery of an Ostrich, injected. *Hunterian.*

416. A portion of the small intestine of an Ostrich, injected. *Hunterian.*

417. A similar preparation. *Hunterian.*

418. A similar preparation. *Hunterian.*

419. A similar preparation. *Hunterian.*

420. A similar preparation. *Hunterian.*

421. The cæca of an Ostrich, injected. *Hunterian.*

422. The cæca of an Ostrich, injected, showing the internal valvulæ. *Hunterian.*

423. The cæca of an Ostrich, injected. *Hunterian.*

424. A portion of one of the cæca of an Ostrich, injected. *Hunterian.*

425. A similar preparation. *Hunterian.*

426. A similar preparation. *Hunterian.*

427. A similar preparation. *Hunterian.*

428. A similar preparation. *Hunterian.*

429. A similar preparation. *Hunterian.*

430. A similar preparation. *Hunterian.*

431. A similar preparation. *Hunterian.*

432. The cæca of a Cassowary. *Hunterian.*

433. The œsophagus, stomach, and duodenum, with the gall-bladder, of a Bustard (Otis Tarda), injected. *Hunterian.*

434. The lower portion of the small intestine, with the cæca, colon, rectum, and cloaca, of a Bustard, injected. *Hunterian.*

435. A small portion of the intestine of the Cyrus Crane (Ardea Antigone), with bristles introduced into the pancreatic and biliary ducts. *Hunterian.*

436. The œsophagus and crop of a Turkey (Meleagris Gallopavo), injected, and opened to show the communication of the sac with the œsophageal tube. *Hunterian.*

437. A portion of the duodenum, with the gall-bladder and its duct, of a Turkey, injected. *Hunterian.*

438. The œsophagus, to which the trachea is left attached, the stomach, pyloric valve, and commencement of the duodenum, of a Bittern (Ardea stellaris). *Hunterian.*

439. The stomach, and glands in the œsophagus, of the Spoon-bill (Platalea). *Hunterian.*

440. The œsophagus, stomach, and duodenum, of a Corvorant (Pelecanus Carbo). *Hunterian.*

441. The gall-bladder of a Goose (Anas Anser). *Hunterian.*

442. A portion of the duodenum of a Bird, with the gall-bladder and duct. *Hunterian.*

443. The stomach of a Turtle, injected. *Hunterian.*

444. The stomach of a Turtle, injected. *Hunterian.*

445. The spleen of a Turtle? injected and corroded. (Imperfect.) *Hunterian.*

446. A portion of the small intestine of a Turtle, injected. *Hunterian.*

447. A portion of the small intestine and mesentery of a Turtle, with the arteries and veins injected with wax, and the lacteals with quicksilver. *Hunterian.*

448. The cæcum of a small Tortoise, injected. *Hunterian.*

449. The cæcum of a large Tortoise, injected. *Hunterian.*

450. Part of the stomach, the pylorus, duodenum, and gall-bladder of a small Crocodile: the cystic and hepatic ducts are marked by bristles. *Hunterian.*

451. Part of the liver, with the gall-bladder, of an Iguana (Lacerta Iguana). *Hunterian.*

452. The stomach, spleen, and intestines of a large Iguana, injected. *Hunterian.*

453. The stomach and part of the small intestines of a Cameleon, injected. *Hunterian.*

454. The stomach and part of the small intestines of a Frog (Rana temporaria), injected. *Hunterian.*

455. The cæcum of a large Snake, injected. *Presented by Mr. Clift.*

456. The gall-bladder and duct of the Wolf-fish (Anarhichas Lupus). *Hunterian.*

457. The stomach of the Frog-fish (Lophius Piscatorius), with a portion of the duodenum, the gall-bladder, and its duct. *Hunterian.*

458. The stomach of a Sea Parrot, or Scarus. *Hunterian.*

459. The stomach of a Scarus, injected. *Hunterian.*

460. A part of the liver of a Cod-fish (Gadus Morhua), with the gall-bladder. *Hunterian.*

461. The gall-bladder of a Cod-fish, inflated and dried. *Hunterian.*

462. A similar preparation. *Hunterian.*

463. The stomach, and a portion of the intestine, of a Salmon (Salmo Salar), to show the pyloric appendages. *Hunterian.*

464. Part of the small intestine of a Lump-fish (Cyclopterus Lumpus), injected. *Hunterian.*

465. The stomach and duodenum of a Conger Eel (Muræna Conger), injected. *Hunterian.*

466. The gall-bladder of a Tetrodon. *Hunterian.*

467. A portion of the intestine of a Diodon, or Crop-fish. *Hunterian.*

468. The hepatic duct of a Fish. *Hunterian.*

469. The gall-bladder and duct of a Shark, injected. *Hunterian.*

470. The gall-bladder and duct of a Dog-fish (Squalus canicula). *Hunterian.*

471. The gall-bladder and duct of a Dog-fish, injected. *Hunterian.*

472. The stomach and spiral valve of the intestine of a Ray, injected. *Hunterian.*

473. The intestine of a cartilaginous Fish, showing the spiral valve. (Imperfect.) *Hunterian.*

474. A cast in wax of the spiral intestine of a Stugeon (Acipenser Sturio). *Hunterian.*

475. The stomach and a portion of the intestine of a Cuttle-fish (Sepia Loligo), inflated and dried. *Hunterian.*

476. The stomach and part of the intestine of a Cuttle-fish (Sepia Octopodia), injected and corroded. *Hunterian.*

477. The stomach of a Snail (Helix Pomatia), injected and inflated. *Hunterian.*

478. The stomach and intestine of a Snail, filled with wax and corroded. *Hunterian.*

479. The stomach and intestine of a Snail, injected. *Hunterian.*

480. The stomach, liver, and intestine of a Snail, injected and corroded. *Hunterian.*

481. The stomach, liver, and intestine of the animal of a Pecten (Tethys), injected and corroded. *Hunterian.*

Male Generative and Urinary Organs.

482. A human Penis, injected, attached to the pubes. *Hunterian.*

483. A human Penis, injected, attached to the pubes.
Presented by Sir Wm. Blizard. 1811.

484. A human Penis, injected. *Hunterian.*

485. A human Penis, injected. *Hunterian.*

486. A human Penis, injected. *Hunterian.*

487. A human Penis, injected. *Hunterian.*

488. A human Penis, injected. *Presented by Sir Wm. Blizard.* 1811.

489. A human Penis, injected. *Presented by Sir Wm. Blizard.* 1811.

490. A human Penis, injected: the vena dorsalis is filled with quicksilver.
Presented by Sir Wm. Blizard. 1811.

491. A human Penis in longitudinal section: the corpora cavernosa are injected with wax; the corpus spongiosum and glans penis are filled with quicksilver. *Hunterian.*

492. The corpora cavernosa of a human Penis, injected with quicksilver.
Hunterian.

493. One of the corpora cavernosa of a human Penis, injected with quicksilver, and in longitudinal section, to show its structure. *Hunterian.*

494. The corpora cavernosa of a human Penis, injected.
Presented by Sir Wm. Blizard. 1815.

495. A human Penis, minutely injected and corroded. *Hunterian.*

496. The corpora cavernosa of a human Penis, injected.
Presented by Sir Wm. Blizard. 1811.

497. The corpora cavernosa of a human Penis, injected and corroded.
Presented by Sir Wm. Blizard. 1811.

498. A similar preparation, not corroded. *Presented by Sir Wm. Blizard.* 1811.

499. The skin of the Penis and Scrotum of one of the natives of the Galla country, in Abyssinia, who, with upwards of eighteen hundred others of the tribe, had suffered mutilation of the external genital organs; a cruelty practised by the Abyssinians upon their prisoners of war. In

Mr. Salt's " Travels in Abyssinia," p. 293, when describing the results of a battle between the armies of the Ras, and Goree, a Galla chief, in reference to this custom, he says, " On the following morning, no less than eighteen hundred and sixty-five of the barbarous trophies which are collected on these occasions were thrown before the Ras, at his encampment, under the high fortress of Zingilla."—" This horrible custom (if it be not borrowed from the Jews) is probably of Galla origin, and is early mentioned as being practised on the east coast of Africa."—Vide De Bry, 1599, De Caffrorum Militiâ. " Victores, victis, cæsis et captis, pudenda excident, quæ exsiccata regi in reliquorum procerum presentio offerunt," &c. *Presented by the late Henry Salt, Esq.* 1811.

500. A human Testicle, with the epididymis injected with quicksilver. *Hunterian.*

501. A similar preparation. *Hunterian.*

502. A human Testicle and Spermatic Chord, similarly injected. *Hunterian.*

503. Human Vesiculæ Seminales and Vasa Deferentia, injected with quicksilver. *Hunterian.*

504. A similar preparation. *Hunterian.*

505. A similar preparation. *Hunterian.*

506. A human Vas Deferens and Vesicula Seminalis, similarly injected. *Hunterian.*

507. A cast in wax of the male human Urinary Bladder and Urethra. *Hunterian.*

508. A fetal human Urinary Bladder, injected. *Hunterian.*

509. A male human Urinary Bladder. *Hunterian.*

510. A human Urinary Bladder, distended with wax; with the prostate gland; and showing posteriorly, the ureters, the vesiculæ seminales, and the vasa deferentia. *Presented by Sir Wm. Blizard.* 1811.

511. A cast in wax of the human male Urethra. *Presented by Sir E. Home, Bart.*

512. A cast in wax of the human male Urethra. *Presented by Sir E. Home, Bart.*

513. A cast in wax of the human male Urethra. *Presented by Sir E. Home, Bart.*

514. A human Kidney, minutely injected and corroded. *Hunterian.*

515. A human Kidney, with the pelvis and blood-vessels injected and corroded. (Imperfect.) *Hunterian.*

516. A human Kidney, injected and corroded. *Hunterian.*

517. A human Kidney, injected and corroded. *Hunterian.*

518. A human Kidney, minutely injected and corroded. *Hunterian.*

519. A human Kidney, injected and corroded. *Hunterian.*
Presented by Sir Wm. Blizard. 1811.

520. A human Kidney, injected and corroded.
Presented by Wm. Lynn, Esq. 1820.

521. The penis of a Monkey, injected. *Hunterian.*

522. The penis of a Monkey, injected. *Hunterian.*

523. The penis of a large Monkey, injected. *Hunterian.*

524. The penis of a large Monkey, injected. *Hunterian.*

525. The penis of a large Black-faced Monkey, injected. *Hunterian.*

526. The vesicula seminalis of the same Monkey, injected. *Hunterian.*

527. The testicle of a Mandrill (Simia Mormon), injected. *Hunterian.*

528. The urinary bladder of a large brown Monkey. *Hunterian.*

529. The penis of a black Bear (Ursus Arctos), injected. *Hunterian.*

530. The penis of a Bear, injected. *Hunterian.*

531. The penis of a Quadruped, evidently of the genus Ursus. The penis terminates in a broader disc than that of the black bear, No. 529, and is shorter in proportion to its bulk. It has, however, an os penis. *Hunterian.*

532. The bladder and penis of a Bear, injected. This preparation shows the os penis very distinctly. *Hunterian.*

533. The testicle and spermatic chord of a Bear: the epididymis is injected with quicksilver. *Hunterian.*

534. A cast in wax of the pelvis of the kidney of a small black Bear. *Hunterian.*

535. The penis of a Ferret (Putorius Furo), injected with quicksilver. *Hunterian.*

536. The penis of a small Viverrine Animal, injected with quicksilver. *Hunterian.*

537. The penis of an Otter, injected with quicksilver. *Hunterian.*

538. The penis of an Otter, injected with quicksilver. *Hunterian.*

539. The penis of an Otter, injected. *Hunterian.*

540. The os pubis, with the bladder, rectum, anal glands, penis and testes, injected, of a large Canine Animal, probably Dog; showing the lateral dilatation of the corpora cavernosa when injected. *Hunterian.*

541. The penis of a similar animal, injected. *Hunterian.*

542. The penis of a similar animal, the veins of which have been injected with quicksilver, and a longitudinal section made to show the communicating cellular structure of one of the corpora cavernosa. *Hunterian.*

543. The penis of a Dog (Canis familiaris), injected. *Hunterian.*

544. The testicle and spermatic chord of a Dog: the epididymis is injected with quicksilver. *Hunterian.*

545. The testicle and spermatic chord of a Dog, similarly injected. *Hunterian.*

546. The penis of a Fox (Canis Vulpes), injected; in external appearance resembling that of the dog. *Hunterian.*

547. The blood-vessels of the kidney of a Fox, injected and corroded. (Imperfect.) *Hunterian.*

548. The penis, bladder, rectum, and anal glands of a Lion (Felis Leo), injected. *Hunterian.*

549. The symphysis pubis, with the urinary bladder and penis, of a Lion, injected. *Hunterian.*

550. The testicle of a Lion: the epididymis is injected with mercury. *Hunterian.*

551. The last dorsal and the first three lumbar vertebræ of a Lion, with the aorta and vena cava, and the vessels of the kidneys, injected and corroded. *Hunterian.*

552. The vessels of the kidney of a Lion, injected and corroded. *Hunterian.*

553. The vessels of the kidney of a Lion, injected and corroded. *Hunterian.*

554. The vessels of the kidney of a Lion, injected and corroded. *Hunterian.*

555. The kidney of a Lion, injected and corroded. *Hunterian.*

556. The pelvis and blood-vessels of the kidney of a Lion, injected and corroded. *Hunterian.*

557. A cast in wax of the pelvis of the kidney of a Lion. *Hunterian.*

558. The blood-vessels of the kidney of a Tiger (Felis Tigris), injected and corroded. *Hunterian.*

559. The kidney of a Seal (Phoca), injected and corroded: the large size of the veins and their superficial reticulate distribution are well shown. *Hunterian.*

560. A cast in wax of the pelvis of the kidney of a Seal. *Hunterian.*

561. A cast in wax of the pelvis of the kidney of a Seal. (Imperfect.) *Hunterian.*

562. The penis of an Opossum (Didelphis), injected. As in the kanguroo, the glans penis is bifid, forming two diverging cornua, the urethra terminating in the division thus formed, between them. *Hunterian.*

563. The urinary bladder and uterus of an Opossum, minutely injected; the bladder and vagina are filled with wax. *Hunterian.*

564. The penis of a Java Hare (Cavia Aguti), injected; showing the singular manner in which the glans penis is furnished with sharp horny serrations, or barbs. *Hunterian.*

565. The urinary bladder of the Paca (Cœlogenus). *Hunterian.*

566. The penis, urinary bladder, rectum, and anal sacs of an animal of the order Rodentia. The glans penis, which terminates in a flattened disc, is studded with numerous minute cuticular or horny papillæ. *Hunterian.*

567. A portion of the penis of a similar animal. *Hunterian.*

568. The urinary bladder of an Armadillo (Dasypus). *Hunterian.*

569. The penis of an Elephant (Elephas Indicus), injected. *Hunterian.*

570. The urinary bladder, and part of the penis, of an Elephant, injected. *Hunterian.*

571. The penis of a Boar (Sus Scrofa), within its sheath, injected. *Hunterian.*

572. The penis of a Boar, injected. *Hunterian.*

573. The penis, with the neck of the bladder, of a Boar. The vesiculæ are injected with quicksilver; one of them is in section, to show its structure. *Hunterian.*

574. The penis of a Boar, injected. *Hunterian.*

575. The lateral sacs at the termination of the sheath of the penis of a Boar. *Hunterian.*

576. The testicle of a Boar: the epididymis is injected with quicksilver. *Hunterian.*

577. The epididymis of a Boar, injected with quicksilver, and partially unravelled and displayed in a circular form. *Hunterian.*

578. The muscles of the lower part of the abdomen of a Boar, with the testicle supported by the cremaster: the passage of the spermatic chord through the abdominal ring is shown, and the tunica vaginalis has been opened, to expose the epididymis, and body of the testicle. *Hunterian.*

579. The kidney of a Boar, injected and corroded. *Hunterian.*

580. The penis of a Horse (Equus Caballus), injected. *Hunterian.*

581. The testicle of a Horse, with the epididymis injected with quicksilver. *Hunterian.*

582. The pelvis of a Horse's kidney, injected and corroded. *Hunterian.*

583. The vessels, pelvis, and ureter of the kidney of an Ass (Equus Asinus), injected and corroded. *Hunterian.*

584. The penis of a Zebra (Equus Zebra), injected, resembling that of the horse. *Hunterian.*

585. The urinary bladder of a Zebra, with the commencement of the urethra, the vesicula seminalis and vasa deferentia, injected. *Hunterian.*

586. The pelvis of the kidney of a Zebra, injected and corroded. *Hunterian.*

587. The penis of a Camel (Camelus Dromedarius), injected. *Hunterian.*

588. A portion of the penis of a Giraffe (Camelopardalis Giraffa), retracted in a similar manner to that of the bull. *Hunterian.*

589. The testicle of a Camel, with the epididymis injected with quicksilver. *Hunterian.*

590. The testicle of a Ram (Ovis Aries), with the epididymis injected with quicksilver. *Hunterian.*

591. The penis of a Bull (Bos Taurus), injected; exhibiting the sigmoid flexure produced in it by the retractor muscles: to show which circumstance they have been left attached. *Hunterian.*

592. The penis of a Bull, injected (in transverse section). *Hunterian.*

593. The lower part of the bladder, and a portion of the penis of a Bull, with the vesiculæ seminales and vasa deferentia injected with quicksilver: those of the left side are in section, to show their structure. *Hunterian.*

594. The lower part and neck of the urinary bladder, with the vesiculæ seminales and vasa deferentia of a Bull, injected. *Hunterian.*

595. The testicle of a Bull, with the epididymis injected with quicksilver. *Hunterian.*

596. The spermatic artery of a Bull, unravelled and extended to show its length and tortuosity. *Hunterian.*

597. A portion of the spermatic artery of a Bull, injected and corroded. (Imperfect.) *Hunterian.*

598. A similar preparation. *Hunterian.*

599. The spermatic artery of a Bull, injected and corroded. *Hunterian.*

600. A portion of a spermatic artery, injected, showing its extreme tortuosity. *Hunterian.*

601. The kidney of a Bonassus (Bos Bison), injected and corroded. *Hunterian.*

602. The kidney of an Ox, injected and corroded. *Hunterian.*

603. A kidney, injected and corroded. (Animal not known.) *Hunterian.*

604. The vessels of a kidney, injected and corroded. (Animal not known.) *Hunterian.*

605. The kidney of a Quadruped, injected and corroded. *Hunterian.*

606. The pelvis of the kidney of a large Quadruped, injected and corroded. *Hunterian.*

607. The penis of a Porpesse (Delphinus Phocæna), injected; with the pelvic bones and urinary bladder attached. *Hunterian.*

608. The penis of a Bottle-nose Whale, injected, five feet in length. In the cetaceous class of animals the structure of the penis is much upon the principle of that of the quadruped. "It is composed of two crura, uniting into one corpus cavernosum; which the corpus spongiosum seems first to enter. In the porpesse, at least, the urethra is found nearly in the centre of the corpus cavernosum; but towards the glans, it appears to separate or emerge from it, and becoming a distinct spongy body, runs along its under surface, as in quadrupeds. The corpus cavernosum in some is broader from the upper part to the lower, than from side to side; but in the porpesse, has the appearance of being round, becoming smaller forwards, so as to terminate almost in a point some distance from the end of the penis. The glans does not spread out as in many quadrupeds, but seems to be merely a plexus of veins covering the anterior end of the penis, yet is extended a good way further on, and is in some no more than one vein deep.

"The crura penis are attached to two bones, which are nearly in the same situation, and in the same part of the pelvis, as those to which the penis is attached in quadrupeds; but those bones are only for the insertion of the crura, and not for the support of any other part, like the pelvis in those animals which have posterior extremities, neither do they meet at the fore part, or join the vertebræ of the back."—See Hunter "On the Structure and Œconomy of Whales," vol. lxxvii. p. 442.

609. The penis of a Whale, in a dried state, seven feet in length. *Hunterian.*

610. The skin of the penis of a Whale, in a dried state, six feet six inches in length. *Hunterian.*

611. The penis of a Whale, in a dried state, five feet nine inches in length. *Hunterian.*

612. The skin of the penis of a Whale-bone Whale (Balæna Mysticetus), five feet in length. *Presented by Wm. Gaitskell, Esq.*

613. A portion of the corpus spongiosum urethræ of a Whale, injected and corroded. *Hunterian.*

614. A portion of the vas deferens of a Whale, injected and displayed, to show its tortuosity. *Hunterian.*

615. Part of the kidney of a Goose (Anas Anser), injected and corroded. *Hunterian.*

616. Two small portions of the kidney of the Lump-fish (Cyclopterus Lumpus), minutely injected and dried. *Hunterian.*

Female Generative, Urinary, and Lactiferous Organs.

617. A human gravid Uterus, injected and corroded. (Imperfect.) *Hunterian.*

618. The vessels of a human gravid Uterus, injected and corroded; showing the large size of the veins. *Hunterian.*

619. A portion of a human gravid Uterus, injected. *Hunterian.*

620. A human Placenta, and the commencement of the vessels of the Funis, injected. *Hunterian.*

621. A human Placenta, injected with quicksilver, and left attached to a portion of the uterus, which is uninjected. *Hunterian.*

622. A human Placenta and Funis, injected and corroded. (Imperfect.) *Hunterian.*

623. A human twin Placenta, with the vessels of the Funis attached, injected. *Hunterian.*

624. A human twin Placenta, injected. *Hunterian.*

625. A human twin Placenta, injected. *Hunterian.*

626. A small portion of a human Placenta and the Funis, injected. *Hunterian.*

627. A cast, in wax, of a female human Urinary Bladder. *Hunterian.*

628. A portion of the uterus of a Bitch (Canis familiaris, fœm.), with the placenta attached. *Hunterian.*

629. The urinary bladder, uterus, and vagina of a Sow (Sus domestica), in an unimpregnated state, injected. The left horn and ovary have been removed. *Hunterian.*

630. The left horn and ovary of the preceding Uterus, injected. *Hunterian.*

631. The termination of one of the horns of the impregnated uterus of a Sow, injected. *Hunterian.*

632. A portion of one of the horns of the uterus of a Sow, injected. *Hunterian.*

633. A portion of the uterus of a Sow, injected and laid open. *Hunterian.*

634. A similar preparation. *Hunterian.*

635. Mammary glands of a Sow, injected and corroded. *Hunterian.*

636. A portion of the spermatic artery of a female Camel. *Hunterian.*

637. A portion of the amnion of a Mare (Equus Caballus, fœm.), injected. *Hunterian.*

638. A portion of the amnion of a Foal, injected. *Hunterian.*

639. The amnion of a Mare, with the funis attached and injected. *Hunterian.*

640. A portion of the chorion of a Mare, injected. *Hunterian.*

641. A portion of the chorion of a Mare, injected. *Hunterian.*

642. A similar preparation. *Hunterian.*

643. A small portion of the chorion of a Mare, injected. *Hunterian.*

644. A portion of the chorion of a Mare, with the interstices injected with wax. *Hunterian.*

645. A similar preparation. *Hunterian.*

646. A portion of the chorion of a Mare; the interstices filled with air. *Hunterian.*

647. A small portion of the chorion of a Mare; its internal membrane taken off. *Hunterian.*

648. A small portion of the external membrane of the chorion of a Mare. *Hunterian.*

649. A portion of the chorion of a Mare, with the interstices injected. *Hunterian.*

650. The urinary bladder of a fetal Foal, showing the internal iliac or hypogastric arteries passing forwards and upwards along the sides of the bladder to the funis. *Hunterian.*

651. A similar preparation of the urinary bladder, and hypogastric arteries, of a fetal Foal, injected. *Hunterian.*

652. The lactiferous ducts of a Mare, injected and corroded. (Imperfect.) *Hunterian.*

653. A portion of the amnion of an Ass (Equus Asinus, fœm.), injected. *Hunterian.*

654. A similar preparation. *Hunterian.*

655. The amnion and chorion, lining one horn of the uterus of an Ass, with the funis, having the arteries and veins injected. *Hunterian.*

656. A portion of the chorion of an Ass, injected. *Hunterian.*

657. A portion of the chorion of an Ass, injected. *Hunterian.*

658. A portion of the chorion of an Ass, injected. *Hunterian.*

659. A portion of the chorion of an Ass, injected. *Hunterian.*

660. A portion of the chorion of an Ass, injected. *Hunterian.*

661. A portion of the chorion of an Ass, which lines the extremity of the horn of the uterus. *Hunterian.*

662. The vessels of the funis of a fetal Calf, injected. The urinary bladder, and a portion of the descending aorta, are preserved, to show the course of the hypogastric arteries. *Hunterian.*

663. One of the umbilical arteries of a Calf, injected. *Hunterian.*

664. A portion of the chorion of a Porpesse, injected. *Hunterian.*

Nervous System.

665. A human body, dissected for the nerves, and preserved in a dried state, according to the method adopted by Mr. Joseph Swan in the preparation of anatomical subjects, by which they are protected from the ordinary effects of exposure to the air, the attacks of insects, &c. This and the following preparation accompanied the Dissertation which obtained the first Collegial Anatomical Prize; the subject of which was "A minute Dissection of the Nerves of the Medulla Spinalis, from their origins to their terminations, and to their conjunctions with the Cerebral and Visceral Nerves." The object of this dissection was to give as comprehensive a view as was possible in one preparation, of the spinal, the cerebral, and the sympathetic nerves; whilst the most minute and intricate branches, forming conjunctions between these several nerves, or terminating in different structures, were exhibited in preparations preserved in spirit. *Presented by Joseph Swan, Esq.* 1824.

666. A preparation of the human body, of which the upper part of the cranium, the sternum with the anterior parts of the ribs, and the extremities have been removed. Its posterior part shows the spinal marrow, and the origin of the posterior bundles of nerves; its anterior part exhibits some portions of the sympathetic, and spinal nerves more particularly than in the preceding preparation. *Presented by Joseph Swan, Esq.*

667. A preparation of the cervical nerves of the human subject. This and the eight succeeding preparations of nerves, formed a part of the illustrations of a "Dissertation on the Treatment of Morbid Local Affections of Nerves," which obtained the Jacksonian Prize for 1819.

Presented by Joseph Swan, Esq.

668. The opposite or corresponding part of the preceding preparation.

Presented by Joseph Swan, Esq.

669. A preparation exhibiting the superficial branches of the portio dura, and their connections with the cervical nerves, and the branches of the fifth, in the human subject. *Presented by Joseph Swan, Esq.*

670. A preparation exhibiting the connections between the sub-occipital, the anterior branch of the first cervical nerve, the sympathetic, the par vagum, and the ninth, as well as the communications of the first cervical ganglion of the sympathetic with the first and second cervical nerves, in the human subject. *Presented by Joseph Swan, Esq.*

671. This preparation, on the anterior, and on the right side, shows the first, second, and third trunks of the fifth, proceeding from the Gasserian ganglion; the sympathetic and its communications, with all the cervical and some of the dorsal nerves; the par vagnm, the ninth, some of the cardiac nerves, and the phrenic. On the left side it shows all the anterior and posterior branches of the cervical nerves; the par vagum, the ninth, the sympathetic, and the pharyngeal plexus. Human.
Presented by Joseph Swan, Esq.

672. A preparation, showing the pharyngeal plexus, and some of the cardiac nerves, in the human subject. *Presented by Joseph Swan, Esq.*

673. A preparation, showing the anterior and posterior branches of the sub-occipital nerves, and their communications with the first cervical nerve; the accessory, and its branch given to the pharyngeal plexus. Human.
Presented by Joseph Swan, Esq.

674. A preparation, showing the occipital nerve passing on the occiput; the branches of the second cervical nerve sent to the back of the ear, and the skin and scalp at the back of the head; the branches of the second and third sent to the skin covering the clavicles and the acromion; also the part of the accessory sent to the trapezius muscle. Human.
Presented by Joseph Swan, Esq.

675. A preparation, showing the terminations of the scapular nerve, and the course of the articular nerve, in the human subject.
Presented by Joseph Swan, Esq.

676. A preparation of a Horse's head in longitudinal section, showing the branches of the fifth and portio dura. *Presented by Joseph Swan, Esq.*

677. A preparation of a human superior extremity, showing how the arteries,

veins, and nerves may be preserved from the usual effects of moderate heat, damp, and insects. *Presented by Joseph Swan, Esq.*

678. A similar preparation of a human superior extremity, for the purpose of showing how much the size and the general appearance of the muscles may be preserved. *Presented by Joseph Swan, Esq.*

679. The lungs of a Dog, to show to what an extent the substance may be preserved. *Presented by Joseph Swan, Esq.*

680. A similar preparation of the liver of a Dog. *Presented by Joseph Swan, Esq.*

681. A similar preparation to show the valves of the heart of a Calf. *Presented by Joseph Swan, Esq.*

682. A similar preparation. *Presented by Joseph Swan, Esq.*

683. A common Fowl dissected for the muscles, and prepared in a similar manner. *Presented by Joseph Swan, Esq.*

Organs of Vision, &c.

684. Human Eye-lids, injected, with bristles introduced into the puncta lachrymalia. *Hunterian.*

685. A similar preparation. *Hunterian.*

686. A similar preparation. *Hunterian.*

687. The eye and eye-lids of a Whale-Bone Whale (Balæna Mysticetus). *Hunterian.*

"The muscles which open the eye-lids are very strong; they take their origin from the head, round the optic nerve, which in some requires their being very long, and are so broad as almost to make one circular muscle round the whole of the interior straight muscles of the eye itself. They may be divided into four; a superior, an inferior, and one at each angle: as they pass outwards to the eye-lids, they diverge and become broader, and are inserted into the inside of the eye-lids almost equally all round. They may be termed the dilatores of the eye-lids; and, before they reach their insertion, give off the external straight muscles, which are small, and inserted into the sclerotic coat before the transverse axis of the eye:

these may be named, the elevator, depressor, adductor, and abductor, and may be dissected away from the others as distinct muscles. Besides these four, going from the muscles of the eye-lid to the eye itself, there are two which are larger, and include the optic nerve with the plexus. As these pass outwards, they become broad, and may in some be divided into four; they are inserted into the sclerotic coat, almost all round the eye, rather behind its transverse axis. The two oblique muscles are very long; they pass through the muscles of the eye-lids, are continued on to the globe of the eye, between the two sets of straight muscles, and at their insertion are very broad, a circumstance which gives great variation to the motion of the eye. The arteries going to the coats of the eye form a plexus passing round the optic nerve, resembling in its appearance that of the spermatic artery in the bull and some other animals."—See Hunter "On the Structure and Œconomy of Whales," Philos. Trans. vol. lxxvii. p. 438.

688. The eye and eye-lids of a small Bottle-nose Whale, with the muscles attached. *Hunterian.*

689. The eye of a young Whale, the muscles of which have been removed. *Hunterian.*

690. The anterior half of the sclerotic coat with the cornea, of the eye of a Whale. *Hunterian.*

691. A longitudinal section of the skull of an Eagle, with the eye exposed in the orbit, showing the rim of osseous plates surrounding the cornea: the membrana nictitans and the muscles of the eye are also preserved. *Hunterian.*

692. A similar section of the skull of a smaller Eagle, showing the eye and membrana nictitans. *Hunterian.*

693. The eye of an Eagle, showing the osseous rim round the cornea, the membrana nictitans, and the muscles. *Hunterian.*

694. The cornea and osseous rim of the eye of the Secretary Vulture (Falco Serpentarius). *Presented by W. Clift.*

695. A similar preparation of the eye of the Great-horned Owl (Strix Bubo). *Hunterian.*

696. The eye and eye-lids, with the membrana nictitans and muscles of the eye, of an Emeu (Casuarius Emeu). *Hunterian.*

697. The osseous sclerotic coat of the eye of the Light-horseman Fish (Ephippus gigas). *Hunterian.*

698. A similar preparation. *Hunterian.*

699. A similar preparation, of a larger size. *Hunterian.*

700. A similar preparation. *Hunterian.*

701. The eye, and a portion of the eye-lids, of a Ray, with their muscles attached. *Hunterian.*

702. The sclerotic coat of the eye of a Ray. *Hunterian.*

703. A portion of the skull of a small Shark, with the eye and its muscles attached. *Hunterian.*

704. The sclerotic coat of the eye of a Shark. *Hunterian.*

Cutis, &c., injected.

705. Human cutis from the forehead and eye-brows, minutely injected. *Presented by Sir William Blizard.*

706. A human Hand, with the cutis minutely injected. *Presented by Sir William Blizard.*

707. A small human Hand, similarly injected. *Presented by Sir William Blizard.*

708. A human Foot, similarly injected. *Presented by Sir William Blizard.*

709. A portion of human cutis, minutely injected. *Presented by Sir William Blizard.*

710. A portion of human fascia lata femoris, injected. *Presented by Sir William Blizard.*

Models, Casts, &c.

711. A model, in ivory and glass, of the different coats and humours of the human Eye. *Hunterian.*

712. Large models, in ivory, of the human Ossicula Auditus.
Presented by Sir A. Carlisle.

713. Similar models, in metal, of the human Ossicula Auditus.
Presented by Sir A. Carlisle.

714. A cast, in metal, of the cavities of the human internal Ear, showing the tympanum, mastoid cells, semicircular canals, cochlea, &c. *Hunterian.*

715. A similar cast, in metal, of the human internal Ear.
Presented by H. L. Thomas, Esq.

716. A similar cast, in metal, of the human internal Ear.
Presented by H. L. Thomas, Esq.

717. A similar cast, in metal, of the human internal Ear.
Presented by H. L. Thomas, Esq.

718. A similar cast, in metal, of the human internal Ear, without the mastoid cells. *Presented by H. L. Thomas, Esq.*

719. A cast, in metal, of the cochlea and semicircular canals of the human Ear.
Presented by H. L. Thomas, Esq.

720. A similar cast. *Presented by H. L. Thomas, Esq.*

721. A large model, in plaster, of the human external Ear.
Presented by Thomas Chevalier, Esq.

722. A plaster cast of the right hand of Patrick Cotter, an Irish Giant, whose height, in the year 1802, was eight feet seven inches and a half.
Presented by Sir A. Carlisle. 1819.

723. A similar cast. *Mus. Brookes.*

724. A plaster cast of the left hand of M. Louis, the French Giant, whose height was seven feet four inches. *Presented by Sir A. Carlisle.* 1822.

725. A small model, in bronze, of the human Body dissected to show the superficial muscles. *Hunterian.*

726. A model, in wax, of the base of the human Brain, showing the origins of the cerebral nerves; executed by Mr. William Tuson.
Presented by Herbert Mayo, Esq. 1830.

727. A model, in wax, of the human Face, on the left side of which the muscles and the supra- and infra-orbitary nerves are shown. The calvaria, and the hemispheres of the brain have been removed, to show the origins of the cerebral nerves, and their transmission through the base of the skull.

In the same case also, are contained models of the human eye, variously dissected, showing the course and distribution of the vessels in the orbit, the muscles, nerves, and blood-vessels of the coats and humours of the eye, and the lachrymal gland, sac, and ducts.—These and the three following models were executed by the Florentine artist Clemente Susini.
Purchased. 1802.

728. A model, in wax, of a human Arm and part of the Thorax, showing the muscles, blood-vessels, and nerves. *Purchased.* 1802.

729. A model, in wax, of the human Heart, Aorta, and Vena cava, with their principal vessels. The cavities of the heart are laid open, to show their structure and valves. (This specimen is, in some respects, inferior in execution, and less correct in detail, than the preceding specimens.)
Purchased. 1802.

730. A model, in wax, exhibiting in situ, the Generative and Urinary Organs of an unimpregnated human female.
Presented by Charles Aug. Tulk, Esq. M.P. 1825.

731. A plaster cast of an African, from the life; by Sartini. *Hunterian.*

732. A cast of the leg of a Negro. *Hunterian.*

733. A similar cast. *Hunterian.*

734. A study, in plaster, of the head of an African. *Hunterian.*

735. A cast of the head and face of Ignatius Sancho, the author of "Sancho's Letters." *Hunterian.*

736. A plaster cast of a head, representing "Sickness," from a statuary group in marble, by Bacon. *Presented by the late Henry Cline, Sen. Esq.*

737. A plaster cast of a Shetland Pony, the integuments of which have been

removed on one side, to expose the superficial muscles. The pony was presented to Mr. Hunter by the Duchess of Gordon. The cast was executed by Sartini in 1791. *Hunterian.*

Mummies.

738. An Egyptian human Mummy, in its inner case, unopened; brought to England in the year 1820 by the late Dr. B. C. Henderson. This specimen is in a very perfect state of preservation, and affords an excellent example of the mode of embalming practised by the ancient Egyptians. The external case, or coffin (generally made of sycamore-wood), has been removed: the internal case, which more immediately envelopes the body, and partakes of its form, appears to be composed of many layers of cloth, cemented together, and faced or covered externally with a white composition, affording a smooth and uniform surface, upon which innumerable hieroglyphical devices and figures are drawn, the vivid colours of which are preserved in a remarkable degree. *Purchased.* 1831.

739. An Egyptian human Mummy, partly unwrapped; taken out of one of the sepulchres at Thebes, by the late Captain Hayes.
Presented by the late Sir David Dundas, Bart. 1812.

740. An Egyptian human Mummy, removed from its case. It appears to be that of the body of an infant not more than a year old. *Hunterian.*

741. A Mummy of an Egyptian Ibis. The earthen vase which contains it has been opened longitudinally, to expose the body of the bird; the skull and mandibles of which, as well as some of the bones of the wings and legs, are rendered visible by the removal of part of the cloth wrapper.
Hunterian.

742. The body of a Peruvian, which was found in one of the native sepulchres, or guacas, in some calcareous hills in the district of Caxamarca, in Peru. Tradition, preserved among the inhabitants of the country, stated the spot in which the body was found buried, to have been the site of a voluntary sacrifice of the life of a Curaca, one of an order of nobles immediately following in dignity the members of the blood-royal. Colonel Tomas Heres, at that time (1821) Governor of the province of

Caxamarca, hearing of this tradition, and knowing it to have been the custom of the ancient Peruvians to bury with their dead whatever household goods or implements they had, during life, been possessed of, ordered these guacas to be opened. As he expected, he found therein various objects of interest, which he remitted to the Museum of Lima. He also found, at about ten or twelve feet below the surface, three human bodies, viz.—the above specimen, which is a male; another of a female, which crumbled to dust when exposed to the air; and a third, of a young child, about a year old; which latter was presented by Colonel Heres to General Don Juan Gregorio las Heras, and is preserved in the Museum of Buenos Ayres.

Tradition also places the period of interment a very short time previous to the arrival of Pizarro at Rimac, or Lima, somewhere between 1530 and 1540. The only weapon found with the bodies was an axe, or bludgeon, of green jade-stone, very similar in shape to those brought from New Holland. Under the arm of the child was a ball, of two or three inches diameter, of very fine thread, or worsted, of Vicugna wool. The bodies were merely placed in an excavation in the earth of about ten feet deep. The soil is calcareous; and, perhaps, to this circumstance, as well as the dryness of the air, is to be attributed the preservation of the bodies in an undecomposed state. Indeed throughout the highlands of Peru the desiccating process goes on so fast, as to arrest the putrefactive process very much: animal substances will be completely dried up by mere exposure to the air. The bodies are not found wrapped up in linen, as amongst the Egyptians, but they are sometimes covered with the skin of the Vicugna or Peruvian camel, bound closely to the body with ligatures. The poorer classes were generally buried on the eastern aspect of mountains, while the richer were entombed in their own dwellings; the bodies being clothed in their accustomed garments, and the weapons, utensils, &c. they had used during life were buried with them; the house was then forsaken by the rest of the family, and the interior of its walls filled up with earth, so as to become quite solid. The bodies are generally found extended and lying on the back.

The native Peruvians are now Catholics, and bury their dead according

to the rites of that church; although they introduce some of their Pagan customs with the prescribed ceremonies.

The above specimen was brought to England by the late General Paroissien, Deputy from the government of Peru, as a present from General San Martin to his late majesty King George the Fourth, by whom it was presented to the Museum, in 1823.

743. The body of a Guanche, or Mummy, from the ancient sepulchres in the island of Teneriffe. This specimen is in a similar state of desiccation to that of the preceding Mummy from the guaca at Caxamarca.

Mus. Brit.

744. The embalmed Body of the first wife of the late Martin Van Butchell, which, at his request, was prepared by the late Dr. William Hunter and Mr. Cruikshank, in January 1775. The method pursued in its preparation was, principally, that of injecting the vascular system turgid with oil of turpentine and camphorated spirit of wine, and the introduction of powdered nitre and camphor into the cavity of the abdomen, &c.

Presented by Mr. E. M. Van Butchell, August 24th, 1815.

745. The embalmed Body of a female subject, aged twenty-four, of the name of Johnson, who died of phthisis in the Lock Hospital, about the year 1775, and left her body for dissection to Mr. Sheldon, who was at the time a pupil of that charity.

Although no record of the process employed in the preparation of the body was preserved, yet it is most probable, from the general resemblance it bears to the one prepared by Dr. Hunter, that the process was nearly the same; and, in a letter which accompanied the specimen, it is stated that "much camphor was used, that all the arteries and veins were filled with injection, and that spirit of wine was used as well as camphor; that the heart and intestines were taken out, and injected and replaced, as was also the brain." It was prepared by the late John Sheldon, Esq.

Presented by Mrs. Rebecca Sheldon, Dec. 24th, 1808.

LONDON:
PRINTED BY RICHARD TAYLOR,
RED LION COURT, FLEET STREET.